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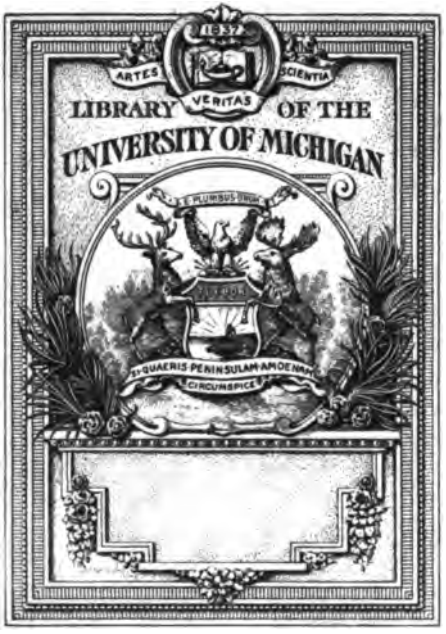

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THE

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(For List of Contents see pp. 63-4.)

CLINICS.

Clinical Lectures.

ON VALVULAR LESIONS OF THE HEART, CONSIDERED IN RELATION TO PROGNOSIS AND TREATMENT.

A CLINICAL LECTURE DELIVERED AT THE BELLEVUE HOSPITAL, NEW YORK.

BY AUSTIN FLINT, M.D.,
Professor of the Principles and Practice of Medicine in the Bellevue Hospital Medical College.

GENTLEMEN: I shall introduce two patients having valvular lesions of the heart, and, after stating the important clinical facts which the cases illustrate, I shall ask your attention to some practical remarks on valvular lesions.

This man's name is Andrew R. He is 47 years of age, and he is a blacksmith. His family history is unimportant. Prior to his present illness he always had good health. He was a strong, robust man. He has never had syphilis, nor rheumatism, nor any important pulmonary disease. He has been a moderate drinker. Six years ago he began to suffer, at times, from dizziness and palpitation. Coincident with these symptoms he passed blood with the urine. From that time to this, he has had repeatedly recurring attacks of hæmaturia, the amount of hemorrhage being sometimes considerable, and attended with obstruction to the free passage of urine. The attacks have been of short duration, and, in the intervals, he has been free from any urinary difficulty. The last attack was three weeks ago, just before his admission into hospital. He has an anæmic facies, and there is some œdema of the lower limbs and face. The apex beat of the heart is feeble, and felt in the fifth intercostal space just within the *linea mammalis*. There is a mitral systolic murmur, not transmitted much to the left of the apex. A systolic murmur is heard at the base, and the same murmur is heard over the carotids. There is also a feeble aortic regurgitant murmur. The aortic second sound is not weak, but the pulmonic second sound has greater intensity. The area of præcordial dulness on percussion is slightly increased.

I shall not consider the pathological significance of the hæmaturia in this case, except to say that it is true hæmaturia and not hæmatinuria, for the

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blood coagulates after its emission; that the long period since the first attack occurred renders the existence of malignant disease improbable, and that examinations of the urine now give no evidence of disease of either the bladder or the kidneys. I will add that one of my surgical colleagues, who has explored the bladder, is led to suspect papilloma within that organ. The hemorrhages have doubtless contributed to the anæmia.

I desire to call attention especially to the heart. We have the evidence of valvular lesions, both mitral and aortic. Moreover, there is some cardiac enlargement. Now what has the heart to do with the dropsy and the general condition of this patient? Very little, if anything. It would be a mistake to treat the patient as if the cardiac affection were the objective point, and prescribe digitalis, which, by the way, I apprehend is too often prescribed, as a matter of course, if there be any disease of the heart. It would be a mistake to give diuretics or hydrogogues to get rid of the dropsy, which is not enough to occasion any inconvenience. The desirable end is the building up of the patient. He needs good alimentation, digestion, assimilation, and nutrition. If we can succeed in giving to this patient good blood and improving his general health, I venture to predict that, for the present at least, his cardiac lesions will give him little or no trouble.

The name of the other patient is Mary A. C. She is 45 years of age. She is married, and has two healthy children. Her parents are both dead, but she does not know of what diseases they died.

Fifteen years ago she had acute articular rheumatism, and she had another attack six months ago. Since the last attack she has suffered from dyspnœa, with cough, some pain in the præcordial region, and a sense of constriction in the chest. Her appearance is anæmic. She suffers from dyspnœa on any exertion, and is sometimes obliged to get up at night. The apex-beat of the heart is in the sixth intercostal space two inches without the *linea mammalis*. The præcordial dulness is considerably extended, and increased in degree. The impulse of the heart is weak. At the apex there is a presystolic together with a systolic murmur, the latter transmitted into the axillary region and heard on the back. There is also a systolic murmur at the base, and this is heard over the carotids. The pulmonic is notably louder than the aortic second sound.

We have in this case mitral and aortic valvular lesions with considerable enlargement of the heart. General dropsy is wanting; but the patient has grave and, of course, incurable cardiac disease. Now, aside from this disease, she is anæmic and feeble. Perhaps her general condition can be improved by tonic remedies, good alimentation, etc. If this can be done, she may suffer comparatively little from the cardiac disease. The important object of treatment in this case is to improve to the utmost the general condition, in order thereby to secure the best possible tolerance of a disease which must necessarily continue.

Taking these two cases as a text, I shall devote the remainder of this lecture to some considerations relating to the diagnosis and treatment of valvular lesions.

The recognition of valvular lesions and their localization at one or more of the valves or orifices of the heart, have been brought to such precision by the study of the cardiac murmurs, as apparently to leave nothing to be desired further in these points of view. Important as are the advantages

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of this precision of physical diagnosis, it has not been without some disadvantages in relation to prognosis and treatment. Let me point out certain evils which may proceed from an accurate knowledge of the existence and seat of valvular lesions.

Nearly twenty years ago I was consulted by a physician from one of the Southern States. He had recently graduated in Philadelphia. Before leaving Philadelphia, he was led to ask the late Dr. Gerhard to examine his chest, some of his relatives having died with phthisis. Dr. Gerhard pronounced his chest free from any signs of pulmonary disease, but told him that he had a heart-murmur. Prior to this time, he had never had any symptoms pointing to cardiac trouble. The idea of the murmur worried him, and directed his attention to the heart. Some time afterward he was conscious of a little disturbance of the heart's action, and he went to Philadelphia for another physical examination. He was then examined by the late Dr. Pepper, who told him that there was a murmur, but no other evidence of any affection of the heart. He was comforted by Dr. Pepper's assurances, but was unable to dispel altogether his apprehensions. Under these circumstances he requested me to examine the heart. I found a systolic murmur within a limited area at the apex. The heart was not enlarged. Its action was regular. The pulmonic and aortic valvular sounds were normal. I assured him that there was no present occasion for anxiety, and advised him to try to forget that he had a cardiac murmur. He adopted my advice. He has ever since been engaged actively in medical practice. No symptoms of disease of the heart have occurred. During the last summer he called upon me, and I examined the heart. I failed to discover any murmur, and in all respects the organ was normal.

I cite this case as a striking one, among a considerable number of analogous cases, teaching the same lesson. The lesson is, that a cardiac murmur undoubtedly organic, that is, not hæmic nor extra cardiac, may represent a lesion which, for the nonce, is innocuous, and may never become otherwise. Now, what evil consequences may follow the discovery of such a murmur? A patient is told that there is the evidence of something wrong in the heart. In common parlance, he has "heart disease." In the popular mind this means always something grave, and is generally considered as involving more or less danger of sudden death. Let it be supposed that the physician enjoins extreme care in regard to physical exercise and mental excitement, advising perhaps the relinquishment of the pursuit in which the patient is engaged; impressing the importance of complete inactivity. It can easily be imagined how much anxiety is produced, and that the duties and aims of life may be sacrificed to needless precautions. These consequences are not imaginary; they have been exemplified in not a few instances which have fallen under my observation. In the instances referred to, it would have been better for the patients had a stethoscope never been applied to the chest. So great in some instances have been the evils following the discovery of an organic murmur, that ignorance of its existence would have been comparatively blissful.

How are such evils to be avoided? By acting in accordance with the following wholesome medical maxims: Positive, proximate evils are not to be incurred in view of remote, doubtful contingencies. A patient is always entitled to a prognosis as encouraging as is consistent with the most hopeful aspect of the case. I will endeavour to illustrate the appli-

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cation of these maxims by a hypothetical case. A physician examines the chest of a patient who has no symptoms of cardiac disease; following the rule that the examination should always enter into a thorough investigation of a case, or, perhaps, because the patient wishes to be assured that he is sound, a cardiac murmur is recognized, and the conclusion is reached that it is not an inorganic murmur. The organ is not enlarged. The impulse and the characters of the first sound show that its muscular power is normal. The aortic and the pulmonic second sound have a proper relative intensity. Under these circumstances, the murmur represents a lesion of some kind, it is true, but one which, for the time being is innocuous. The lesion may, or may not, at a future time, lead to hypertrophy and dilatation. These results, if they ensue, will probably give no manifestations until after the lapse of many years. Acting in accordance with the maxims just stated, the physician need not volunteer any statement respecting the murmur. If the question whether there be anything wrong be asked, a truthful answer must, of course, be given; but the statement should be accompanied by such explanations and assurances as will preclude the idea of the existence of any important disease, or the expectation of its development in the future. The patient is to be spared apprehensions which, of course, are gratuitous if the lesion remains permanently innocuous. Moreover, if hypertrophy and dilatation follow, at a period more or less remote, apprehensions will not prevent these results, and may even tend to promote them. And, in this connection, let me state a fact, already implied, which underlies the prognosis and treatment whenever the existence of valvular lesions is ascertained: The remote pathological results proceed, not directly from the valvular lesions, but from the hypertrophy and dilatation which they induce, and chiefly from the latter of these two varieties of enlargement of the heart.

In the case which I sketched of the physician, a mitral systolic murmur represented an innocuous lesion. The murmur in that case was not a regurgitant murmur, although systolic. Here is an important distinction which may often be made clinically. A systolic murmur, having its maximum of intensity near the apex, propagated a greater or less distance in a lateral direction to the left, and heard on the back near the lower angle of the scapula, is evidence of mitral insufficiency. But, if limited to a space at the apex, it has not that significance; it may be due to an intra-ventricular lesion, the competency of the valve not being impaired, and, consequently, no regurgital current taking place. My colleague, Prof. Janeway, has demonstrated that a small tendinous cord attached to opposite points of the inner walls of the left ventricle—a congenital abnormity—may cause an intra-ventricular systolic murmur. But a truly regurgitant mitral murmur does not necessarily represent a lesion of present importance. An insufficiency so small as to allow a regurgitant stream no larger than a knitting needle, may give rise to a murmur, loud, propagated to the left, and heard on the back. Such a lesion occasions no appreciable disturbance, and it may never increase. Practically it is, and may remain indefinitely, innocuous. And here let me remark that a practical precept is never to draw any inference concerning the amount of lesion from the intensity of a murmur. It is perhaps true, as a rule, that the smaller the amount of regurgitation, the louder the regurgitant murmur.

What is true of mitral lesions is equally true of those seated at the other orifices. An aortic direct murmur which, from its persistence and other

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circumstances, is not of hæmic origin, whether feeble or intense, may represent only a patch of atheroma or calcification causing no pathological effects, and remaining innocuous indefinitely. A little insufficiency of the aortic valve may have no greater importance than that of a mitral lesion causing a small regurgitant current. That an aortic regurgitant murmur may persist many years without enlargement of the heart, and giving rise to no appreciable cardiac symptoms, I know from cases which have been for a long time under my observation. As much can be said sometimes of a mitral direct or obstructive murmur; but I shall presently speak of the remarkable tolerance of the lesions giving rise to this murmur.

The practical points which I wish to make are these: Valvular lesions represented by murmurs, if there be no enlargement of the heart, are not of immediate pathological importance, and they may never become important. If the knowledge of their existence can be properly withheld from patients, it had better not be communicated. By no means terrorize them with the idea that they are doomed to die of "heart disease." Do not enjoin any radical changes in life, provided their habits are not inconsistent with hygienic laws. Above all, forbear any efforts to remove the lesions by mercury, the iodide of potassium, or other remedies. This last injunction may seem to many superfluous; yet it has happened that within a few days I have received a letter from a medical practitioner, detailing a case of a valvular murmur with no enlargement, the object of the letter being to inquire as to the propriety of other treatment than by large doses of the iodide of potassium which the patient was taking. In short, reverting to the maxims which I have laid down, avoid destroying the happiness and usefulness of a life in view of possible remote contingencies; allow all the benefit of a prognosis based on the fact that an innocuous lesion may remain so indefinitely, and may never become otherwise.

I proceed next to offer remarks on valvular lesions which have led to more or less enlargement of the heart. Errors in relation to prognosis and treatment may arise, in the first place, from attributing cardiac symptoms dependent on a functional affection associated with, but not dependent on, lesions, wholly to the latter; in the second place, from a deficient appreciation of other morbid conditions in accidental association, to which are measurably due the supposed effects of the cardiac lesions; and, in the third place, from an under estimate of the ability to tolerate these lesions.

It happens not infrequently that a patient with valvular lesions and more or less enlargement, who experiences little or no inconvenience therefrom, becomes affected with functional disorder from the same causes which produce it when the heart is sound, namely, dyspepsia, anæmia, the abuse of tobacco, excesses in venery, and prolonged mental worry. The functional disorder is independent of the organic affections, although, doubtless, more distressing in proportion as the heart is damaged by the latter. Now the palpitations, irregularity of rhythm, and intermissions, in some cases so excessive as to render significant Bouillaud's expression, *folie de cœur*, may be attributed wholly to the organic affections; hence, an exaggerated estimate of the importance or gravity of these. The physician may be taken by surprise, and astonished by the disappearance of symptoms which seemed to be alarming, and an apparent recovery of the

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patient. Many years ago I saw in consultation a young man who had unmistakably a valvular lesion, and there was such an amount of disturbance of the heart's action that a most unfavourable prognosis was given. Some months afterward the attending physician sent him to report to me. He considered himself well, and was actively engaged in some mechanical employment. He had a lesion which gave him no inconvenience, and the symptoms on which were based the unfavourable prognosis were functional, not dependent on the organic affection. I am free to say that I could cite other analogous instances of error in prognosis from my own experience.

If valvular lesions be associated with little or no enlargement, coexisting disturbances of the heart's action are to be considered as functional, and especially if the causative agencies of the latter be discoverable. But when the associated enlargement is considerable, it is by no means always easy to determine to what extent the cardiac symptoms are due to a functional disorder which is independent of the organic affections. This point is often only to be settled by the removal of existing causes of functional disorder, and appropriate treatment in other respects. A large clinical experience is of much use in forming a judgment on this point, before it is settled by time. As bearing thereon, the persistence and the effects of a purely functional disorder, that is, not associated with any lesion, in some cases, are to be considered. The following is a sketch of a striking illustration which came under my observation about two years ago. The patient, a lady in the neighborhood of forty years of age, had long suffered from dyspeptic ailments, and frequently recurring attacks of functional disorder of the heart. At the time to which I refer, the organ was in a state of persistent palpitation for several successive weeks. The pulse was thready, and extremely frequent, often exceeding 150 per minute. She became anasarcous, and the face had the pallor of death. It was difficult to realize that she was not in danger of dying at any moment. Yet, repeated examinations prior to this attack had shown that there was no enlargement, and there were no signs of valvular lesion. At length the functional disorder ceased, and she has since had comfortable health, although suffering at times from dyspepsia and paroxysms of palpitation.

By morbid conditions, other than functional disorder of the heart, accidentally associated with cardiac lesions, which are liable to give rise to error in diagnosis and treatment, I do not mean complicating affections as, for example, Bright's disease. The conditions especially referred to are impoverished blood, impaired nutrition, and general debility. A patient with obstructive or regurgitant lesions, or both combined, and the heart more or less hypertrophied, may scarcely be aware of any cardiac affection so long as alimentation is abundant, the digestion good, assimilation unaffected, the body well nourished, the nervous system undisturbed, and the muscular strength well maintained. Now, let it be supposed that this patient, from loss of appetite or any cause, ingests an insufficient supply of food; or that the digestive functions are impaired; or that either the assimilatory or digestive processes are defective; or that nervous prostration is induced by overwork or other causes; or that the muscular system is exhausted. Under these circumstances, singly or combined, distressing symptoms or effects of the cardiac affection are manifested. Dyspnœa and general dropsy, if the seat of the lesions be mitral, and præcordial oppression if the seat be aortic, are more or less

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marked. The error in prognosis is the belief that these symptoms and effects represent purely and simply the cardiac lesions, whereas they are measurably caused by co-operating morbid conditions accidentally associated therewith. The error in treatment is in directing measures exclusively to the heart. If the associated morbid conditions can be removed, the patient is restored to the comfortable state which existed prior to their occurrence. The object of treatment is the removal of these conditions.

Illustrations of the point which I am endeavouring to make clear, are frequent both in private and in hospital practice, more especially the latter. Over and over again I have presented in this amphitheatre, patients suffering from dyspnœa and general dropsy, and ventured to predict that, by appropriate treatment addressed not directly to the heart, but to associated morbid conditions, so much improvement might be hoped for that it would seem as if recovery from the cardiac affection had taken place. I could cite numerous cases in which this prediction was fulfilled. The grounds for such a prognosis are the existence of some, or perhaps all, of the conditions which have been named, and the degree of hypertrophic enlargement of the heart not being sufficient alone to account for the symptoms and effects.

I cannot leave this topic without commending it to your thoughtful consideration. Its importance as bearing on prognosis and treatment in cases of valvular lesions with enlargement of the heart, is very great.

Errors, in relation to prognosis and treatment, arising from an underestimate of the tolerance of cardiac lesions, are common, as a consequence of limited clinical experience. Giving preference to my own errors over those of others, I will cite the following illustration: A family to which, nearly thirty years ago, I stood in the relation of physician, consisted of a husband, a wife, and three daughters. All were healthy except one daughter, about fourteen years of age, who was attending school, and appeared less robust than her sisters, without being considered an invalid. On making an examination of her chest I was surprised to find a loud mitral regurgitant murmur, and considerable hypertrophic enlargement of the heart. Disease of the heart had not been suspected prior to this examination. I felt it my duty to tell the parents that they must not expect her to reach maturity, and that, probably, at farthest, she would live but a few years. Fortunately, perhaps, for her, they attached not much importance to my communication. She continued to go to school, and no restrictions of any kind were placed upon her. This girl developed into a delicate-looking woman, but with comfortable health, dying, with the usual symptoms of mitral lesions and dilatation of the heart, about twenty years after the date of my examination, surviving her father, mother, and one of her sisters. The error in this case was not in the diagnosis, but in the prognosis.

If valvular lesions with enlargement be unaccompanied by associated unfavourable morbid conditions, they are often well tolerated for a long period. To promote tolerance, the object of treatment is to maintain a maximum of general health. It is a great mistake to impoverish the blood, impair nutrition, and induce general debility by a restricted diet, and to enjoin complete mental and physical inactivity. A diet abundant and nutritious is a *sine qua non*. Restrictions should be determined only by the digestive capabilities. Muscular exercise, within a certain limit, is

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advisable from its influence on appetite, digestion, and nutrition. The proper limit is easily defined. It should not be so active as to occasion discomfort from either the action of the heart or dyspnœa. It should not be continued so as to produce exhaustion. Mental occupation, within the bounds of comfortable endurance, is useful as a hygienic measure, and as a preventive against introspection and brooding. It is, perhaps, not incorrect to say that practical errors in relation to the foregoing points in the treatment are not rare.

The situation and the character of valvular lesions are to be taken into account in prognosis and treatment. Aortic lesions which allow free regurgitation are the most doubtful in the way of prognosis. These lesions especially involve the liability to sudden death. They interfere with the nutrition of the left ventricle, inasmuch as the passage of blood into the coronary arteries takes place in the diastole, being effected by the recoil of the arterial coats; and the blood enters into these arteries with a force lessened in proportion as the aortic valves are insufficient. The danger of sudden death is greater without, than with, mitral insufficiency. The latter is to a certain extent protective against accumulation of blood in the left ventricle, and paralysis from distension. Weakness of the left ventricle from dilatation augments greatly the danger. These are points to be considered in the prognosis. As regards treatment, the object is to maintain the hypertrophy and muscular vigor of the left ventricle. Digitalis, given to the extent of diminishing the frequency of the heart s action, or, in other words, lengthening the pause after the two sounds, may increase the danger from over-filling of the ventricle.

Aortic obstruction is well tolerated. It is surprising how contracted the aortic orifice sometimes becomes before death takes place. This is better borne with, than without, mitral insufficiency. Regurgitation into the left auricle is compensatory and conservative.

Mitral regurgitant lesions, which are the most frequent in occurrence, may be tolerated indefinitely under favorable accompanying conditions. The case which I last cited exemplifies this statement.

Of mitral obstructive lesions I will speak at somewhat greater length. The murmur which represents these, namely, the mitral obstructive, or direct, or presystolic, has been recognized only within a few years. It was formerly confounded with the mitral regurgitant murmur, and is still by some who have given more or less attention to auscultation as applied to diseases of the heart. Not one of the cardiac murmurs is more readily recognized than this, when its distinctive characters are clearly apprehended. No other murmur occurs after the 2d sound and before the 1st sound, ending with the latter. Moreover, generally it has a peculiar vibratory or blubbering character, and it is limited to a circumscribed space around the apex of the heart.

This murmur represents mitral obstructive lesions, with an important exception, namely, when there is free aortic obstruction. I may claim priority in pointing out this exception, and in offering an adequate explanation of it. For the latter, I must refer you to my work on "Auscultation and Percussion," or my works on "Practical" and "Clinical Medicine." I may state here that this murmur is by no means so rare as I supposed when my clinical experience was more limited than at the present time. And it occurs oftener without mitral regurgitation than I formerly supposed. I have lately observed an interesting fact in regard to this murmur, namely, it may disappear after mitral obstruction has led to great

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dilatation of the left auricle. Under these circumstances, at different times, it may be present and absent. Its disappearance, of course, is of unfavourable omen, preceding or accompanying increase of dyspnœa and of general dropsy. When I first studied this murmur, I had the impression that it very rarely existed without a coexisting mitral regurgitant murmur. Experience has shown me that this impression was erroneous. In the majority of cases mitral obstruction is combined with mitral insufficiency, but the instances of the former without the latter are not infrequent.

Mitral obstruction, as represented by the presystolic murmur, may be tolerated indefinitely, and is not incompatible with comfortable health. Of a pretty large number of cases sustaining this statement, I will refer to a few.

Twelve years ago I saw a woman a few days after her confinement. She had orthopnœa, cyanosis, much anasarca, and a large dropsical effusion into both pleural cavities. There was a mitral direct murmur, with moderate enlargement of the heart. The physician who attended her in labor said the dyspnœa was such as to lead him to fear that she would die before the birth of her child. She was promptly relieved by the free operation of elaterium. She apparently regained good health. Meanwhile, I have seen her once, in consultation, with a moderate general dropsy. This was several years since, and I have lately heard of her as in comfortable health.

I have notes of two cases, both women, who were under my observation for more than ten years. In both the mitral obstruction did not interfere with comfortable health. In one case death at length took place, preceded by much suffering from dyspnœa and by general dropsy. In the other case, while the patient continued to suffer but little, and was accustomed to much activity, death was caused by gangrene of both lower limbs, probably due to embolism.

In another case which has been under my observation for ten years, the patient suffers but little inconvenience from symptoms referable to the heart, although the general health has been much impaired at times by malarial fever and by menorrhagia. In this case the mitral direct is associated with an aortic regurgitant murmur. During the ten years, very little, if any, enlargement of the heart has taken place.

I will next offer some remarks on the treatment in cases of mitral lesions (obstructive or regurgitant, or both combined) associated with dilatation of the heart, sufficient, exclusive of accessory morbid conditions, to give rise to dyspnœa, orthopnœa, and to general dropsy. Every practitioner of much experience is familiar with cases in which the patient is unable to lie down on account of distress from the sense of the want of breath, getting a certain amount of disturbed sleep by bending the body forward, raising the arms, and resting the head upon some support. There is anasarca, and the lower limbs, together with the scrotum and penis, become enormously swollen. There is more or less effusion within the peritoneal cavity and both pleural cavities. The suffering for days, weeks, and months, in this pitiable condition, is extreme. Death seldom comes in a shape more terrible than this. What can be done to diminish suffering and prolong life under these circumstances?

Efficient measures of treatment will often do much. The effect of active hydragogue purgation is sometimes marvellous. Physicians are often unduly timid in resorting to potential hydragogues for fear of ex-

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haustion. The elimination of water by the intestinal canal, so far from exhausting the patient, gives increased strength by relieving the dropsy and the suffering from dyspnœa, thereby enabling the patient to have refreshing sleep. Elaterium, the king of hydragogues, may be judiciously given without apprehension. Podophyllin is a royal remedy, but less potent than elaterium. Of the inferior grade of hydragogues, the pulvis purgans should hold a high rank; but in my experience it has often proved unreliable, as I suspect from the poor quality of jalap dispensed by apothecaries. The Epsom salts is an old remedy which has fallen in a measure into unmerited disuse. It is easily administered, generally well borne and reliable. After relief has been procured by active hydragogue purgation, either a moderate drain from the bowels may be kept up, or the active purgation repeated once a week or fortnight, as circumstances may indicate. In the intervals, a diet as substantial as practicable, and tonic remedies, if indicated, are important, adopting the excellent maxim that "a lame heart needs good blood."

In the cases to which I now refer, digitalis is often an invaluable remedy. This remedy is indicated by weakness, rapidity and irregularity of the heart's action. I agree with those who regard this remedy as a cardiac tonic rather than a cardiac sedative. Its potency is sometimes extraordinary. It should be given for a short time, and then suspended, to be resumed, from time to time, according to the indications.

Pursuing the plan of treatment just outlined, I believe that I cannot be mistaken in the opinion that I have seen much mitigation of suffering and prolongation of life.

I will conclude this lecture by summarizing in a few aphorisms the practical points which I have presented.

1. Cardiac murmurs may represent lesions which, if unaccompanied by symptoms referable thereto, enlargement of the heart not coexisting, and the heart-sounds normal, are to be considered as innocuous. The prediction of grave consequences, under these circumstances, is unwarrantable, inasmuch as they may never occur. Such lesions do not claim medical treatment, nor any extraordinary precautions; and it is desirable that the fact of their existence be withheld from patients, if this can be done with propriety.

2. Patients with valvular lesions are liable to suffer from functional disorders of the heart, arising from causes which have no pathological connection with the lesions. It is highly important to recognize, clinically, this accidental coincidence, in order to exercise a correct judgment as to the prognosis and treatment.

3. Various morbid conditions, other than functional disorder of the heart, may be accidentally associated with valvular lesions and more or less cardiac enlargement. These associated morbid conditions may be, in a great measure, responsible for symptoms and effects which seem to denote an advanced stage of the cardiac disease, whereas, the latter may occasion but little inconvenience, provided these accessory, co-operating conditions can be removed.

4. Valvular lesions involving either obstruction or regurgitation, or both combined, and having led to considerable or even great enlargement of the heart, under favorable circumstances as regards associated morbid conditions, are often well tolerated indefinitely. There is less reason for a hopeful prognosis, in respect of tolerance, when there is considerable

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aortic insufficiency, than in cases of aortic obstructive lesions, and those which occasion obstruction or regurgitation at the mitral orifice. The danger of sudden death from aortic regurgitation is lessened by coexisting mitral insufficiency.

5. In cases of orthopnœa and general dropsy dependent on mitral obstructive or regurgitant lesions and enlargement of the heart, digitalis and active hydrogogue purgation repeated from time to time, not only often afford notable relief, but there is reason to believe that life is sometimes thereby much prolonged.

ON THE THERAPEUTICS OF ACUTE RHEUMATISM.

A CLINICAL LECTURE DELIVERED AT THE JEFFERSON COLLEGE HOSPITAL.

By ROBERTS BARTHOLOW, M.D.,
Professor of Therapeutics and Materia Medica in Jefferson Medical College, Philadelphia.

Gentlemen: In no disease is the influence of fashion in therapeutics more conspicuous than in the treatment of acute rheumatism. Now it is a therapeutical nihilism, as the "mint-water method" at Guy's Hospital; again it is the application of blisters to the affected joints; now it is the alkaline treatment; again it is salicylic acid. Whatever it may be, the remedy has almost universal sway for a time, until supplanted by some other fashion. I need hardly say that we should not abandon an old and well-tried remedy for a new one, simply because it is new; but the new one should be distinctly better. It may be useful then, in view of the cases which have been before us, to examine into this subject of the therapeutics of acute rheumatism, and come to some conclusions, if we can, in regard to the relative merits of the various remedies which have occupied professional attention for several years past.

First of all, gentlemen, I cannot too strongly insist on this fundamental fact, that no single remedy can be rightly applied to every case of acute rheumatism. In this disease, notwithstanding it pursues a pretty uniform plan, there are wide differences in origin, in the type of individual cases, and in the constitutional state and bodily condition of patients—all of which must have due recognition if we would employ our therapeutical expedients wisely. Let me illustrate: Rheumatism seems sometimes to be of distinctly nervous origin. We now know that certain changes in the spinal cord, and injuries of nerves, are followed by joint inflammations similar to those of acute rheumatism. Again, the circulation of some organic acid in the blood has seemed to excite rheumatic inflammation; at least we know that the sweat and the urine are very acid, that endocarditis has been excited by injecting lactic acid into the peritoneal cavity of animals, and that rheumatic attacks have been induced by the administration of lactic acid for diabetes.

Furthermore, the most superficial inspection of the cases which have been shown must have satisfied you that there are three classes of subjects who are attacked by rheumatism: the cachectic, feeble, and nervous; the obese, florid but flabby, drinkers of malt liquors; the vigorous and able-bodied, who have inherited or acquired a rheumatismal diathesis.

These forms and types are so distinct that he who fails to take heed of

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them cannot properly adapt his means to the end in view, and must pursue merely routine methods.

We are greatly aided now in our attempts to arrive at just conclusions respecting the therapeutical value of our remedies for rheumatism by the exact knowledge we possess of the natural history of this disease. Thanks to the "mint-water treatment" of Guy's Hospital, we know that rheumatism has a tendency to get well about the fourteenth day, and again but more decidedly about the twenty-first day, but that it usually continues on to the sixth week and does not really cease earlier, as I think Dr. Fuller conclusively shows. The traditional "six weeks and blankets," under the spoliative treatment formerly employed, seems to be about the natural limit of rheumatism, and hence, if under our remedies the duration of the disease is distinctly less, they have exerted a curative influence. It is very apparent, therefore, that we have several remedies which possess curative value in this disease, for under their use the duration of it is materially abbreviated.

Taking up for consideration, first, the type of feeble, anæmic, nervous subject—what method shall we pursue? If I were governed merely by the fashion of the time I would direct salicylic acid or salicin—an undeniably efficient remedy in many cases. But in this class of subjects it does not succeed well; they are much depressed by it, and have a tedious convalescence with a strong tendency to relapses. In these cases I decidedly prefer the tincture of the chloride of iron, in half-drachm doses, well diluted with water. We owe chiefly to Dr. Russell Reynolds the important fact that the tincture of iron is an efficient remedy in acute rheumatism. It cuts short the duration of the disease, and what is even more important, lessens the danger of cardiac complications. Dr. Anstie pointed out another fact—that the tincture of iron has the power of prophylaxis—of preventing attacks that are impending. Whether it acts by virtue of its acid or its iron is not known, but it is probably the former. Dr. Ridge has shown that the mineral acids are decidedly curative in acute rheumatism. Alkalies are curative in rheumatism! mineral acids are curative in rheumatism! What strange contradiction is this? After all, gentlemen, this opposition of agents is more apparent than real. It is not difficult to conceive that whilst alkalies neutralize the acid of rheumatism, the mineral acids may prevent its formation. We may, therefore, assume that the virtues of the chloride of iron are due to its acid; but we should not obtain the same good results from chlorhydric acid, for iron aids in the restoration of the blood, and is useful for this reason.

I direct, as I have already indicated, and as you have witnessed, thirty minims of the tincture well diluted with water, every four hours. The affected joints are wrapped in cotton if the patient desire it, but otherwise are simply kept at rest, and if the pain is severe, some small blisters are applied around the joint, but not on it. I have treated many cases with the iron alone, and with iron aided by moderate doses of alkalies and blisters. The best results have been obtained in these weak and anæmic subjects by the iron and blisters, and an occasional laxative of Rochelle salt. The treatment by blisters alone is a highly efficient plan, and is by no means so painful and disagreeable as it appears at first sight. The blisters remarkably relieve the pain, and patients soon learn this and ask for their repetition. But the blisters do more—they bring about a more alkaline condition of the blood, and render the urine less acid or bring it to neutral, or even to alkaline. I do not, as the French physician (Dr.

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Dechilly) who proposed the method, apply large blisters over the whole of the affected joints, but as Dr. Davies, of the London Hospital, who introduced the method into England, apply smaller blisters to encompass the joints. To be more explicit: I have small blisters, the size of a silver dollar, placed around the joint, leaving an interval between for succeeding applications.

In these weak subjects a few blisters are applied, and the joint is supported at rest, but the tincture of iron is the chief remedy. Managed in this way, the duration of the cases rarely exceeds two weeks; heart complications are infrequent, and the patient's strength is conserved so that convalescence is rapid and relapses uncommon.

The cases of the second class require different management. They are the fat and flabby subjects, often excessive consumers of malt liquors, who suffer habitually with acid indigestion and the usual concomitants of this state. Such subjects present a delusive appearance of good health, but they have a weak circulation, are easily put out of breath, tire on the least exertion, and often suffer from lumbago, myalgia, and other so-called rheumatic troubles. When attacked with acute rheumatism, they are very apt to have endo- or exo-cardial complications. These cases are most successfully treated by the alkaline plan. In, I believe, almost the last paper written by the late Dr. Fuller, which was in opposition to Drs. Gull and Sutton's "mint-water treatment," he insisted strongly on certain points in regard to the use of alkalies, inattention to which had been the cause of failure in the treatment. He says we must give not less than an ounce and a half of the alkaline carbonates, either alone or in combination with a vegetable acid, during the first twenty-four hours of the treatment. This may be prescribed as a drink—a lemonade—by adding lemon juice or citric acid to the solution of the carbonates—two drachms of the carbonates, an ounce of lemon juice, or half a drachm of citric acid dissolved in four ounces of water, and taken every three or four hours. If the bowels are constipated, he gives compound cathartic pills at bedtime. As soon as the urine, when passed, ceases to exhibit an acid reaction, he reduces the alkali one-half. This reduction of the daily quantity of alkali goes on each day, until the fourth or fifth day, when, if the urine continues to be alkaline, he prescribes bark preparations or quinia, at the same time continuing the alkalies in moderate quantity. If treated on this plan, the class of cases under consideration get well within two weeks, and are often up in a week. Instead of giving the quinia in the small doses of three grains advised by Dr. Fuller, the results are much better if twice that quantity is given every four hours. In these cases, instead of quinia I usually give, after the alkali course, the tincture of iron; and if the attack is a severe one, apply blisters about the principal joints.

The third group of cases consists of vigorous subjects having, in a considerable proportion of them, an inherited tendency. According to my experience, cases of this type are adapted to the action of salicylic acid, and are often relieved with remarkable promptitude by means of it. Salicin is probably nearly as effective, but it must needs be given in such quantity as to be difficult to manage. Scruple doses of salicylic acid seem to be sufficient for most cases of rheumatism, provided they are often enough repeated. The patient should receive not less than two drachms every twenty-four hours, and considerably more may be required. I have found that salicylic acid is more effective if given in solution or contemporaneously with an excess of alkali, than if administered in powder by

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itself. If kept for a few hours in solution with sodium bicarbonate in excess, the solution becomes brownish or greenish-brown, and emits an odour of wintergreen. Take it all in all, the most satisfactory procedure is to give wafers containing the salicylic acid, and alternate with an effervescing draught of an alkaline carbonate—the officinal effervescing powder answers the purpose. The amount of relief given by this remedy in many cases, is amazing, and in a few hours, a cure being effected not unfrequently in three or four days. When good is being accomplished by it, the evidence is quickly afforded in relief to pain and decline of temperature. If, therefore, after several days—three or four—persistent and efficient administration of salicylic acid, the signs of improvement are wanting, it is probable that nothing will be accomplished by its continued use. If the stomach will not bear it, or if the considerable doses necessary depress the action of the heart, or cause great irregularity in the pulsations, it must be discontinued.

Notwithstanding the importance of these remedies or methods of treatment, there are accessories scarcely inferior in the influence which they exert over the progress of the case. The diet must be carefully regulated. Solid food of any kind seems to be hurtful, and there is usually great repugnance to it. Milk, and beef, mutton, or chicken broth, are the chief components of the diet. Large draughts of milk are useful by maintaining free action of the kidneys. Coffee and tea may be allowed, but wine, beer, and spirits are highly injurious.

Shall any attention be given to the joints? Experience does not justify the local treatment of the rheumatic inflammation. The curative effects of blisters are not due to the notion at one time entertained, of the withdrawal of a morbific material from the affected parts, or to the counter-irritant action, but to their systemic effects in increasing the alkalinity of the blood, and lessening the acidity of the urine, and their power to relieve pain. Wrapping the joints in cotton is comforting to the patient, but it is questionable practice, as the heat is retained, and the temperature of the joints kept above that of the neighbouring parts. The application of alkaline lotions, at one time much used, owing to the theoretical notions then entertained, is now rarely employed. Painting with iodine tincture, does not influence the course of the case in any way. To maintain immobility of the affected joints, is a measure of the highest utility. Motion increases the pain and swelling, which react in turn on the systemic state, and conversely, an absolutely quiescent state of the joints, diminishes pain, and lessens fever. To secure the necessary quietude has been attempted by mechanical means—by starch or plaster bandages; but there are many joints so situated that this method, if desirable, would be impracticable. In fact, the desired immobility can be secured only by moral and medicinal means. The necessity for quiet—for absolute quiet—should be impressed on the patient, but moral suasion must be aided by means to quiet pain and restlessness. It is the sedative influence of the bromides on the centres of conscious impressions, and on the reflex and motor centres, which gives them importance as remedies in acute rheumatism, and by some of our best authorities they are assigned the highest place.

Relief to pain and restlessness is best afforded by the agents which exert a curative influence, but if pain persists relief must be given in some other way—by anodynes. If the bromides are active enough to allay pain, to bring sleep, and to quiet the restlessness, they are to be preferred; but it

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will generally be found, I think, that they do not possess sufficient anodyne power. Morphia or Dover's powder, are usually resorted to, but the relief which they afford is at the expense of a protracted convalescence. By checking elimination, opium retards improvement. There is an agent which happens to have a decided effect in relieving pain, whilst at the same time it promotes elimination; that is, atropia, which, for this purpose, was first used and recommended by Dr. Harley. It should be administered hypodermatically and in the neighborhood of the affected joints. The dose for each injection need rarely exceed the $\frac{1}{80}$ grain a day.

I have probably occupied sufficient time in giving this summary of the treatment of rheumatism, yet I ought to say something of important complications. It is by no means an unusual circumstance to have endo- or exo-cardial inflammations occur—in, probably, one-third of all the cases. To combat it, there are three remedies of chief value—morphia, ammonia, and digitalis. As soon as the fact of the cardiac complication having arisen is known, the carbonate of ammonia in solution of the acetate (5 grains to a tablespoonful), should be freely given, with the object of securing prompt solution of the fibrinous exudation or deposited fibrin. To check the inflammatory process, and lessen the work of the heart, morphia and digitalis are prescribed. The morphia is most efficient when administered hypodermatically, and the digitalis when in the form of infusion. As there is no therapeutical incompatibility, these agents may be given contemporaneously. When the acute symptoms subside, to relieve the immediate and prevent the ulterior bad effects of the inflammation, the tincture of iron and quinia should be given freely, and the heart should be kept steady by digitalis. The extent to which restoration of these injured parts, delicate in structure as they are, can be carried by rightly seconding the efforts of nature, is very surprising. Shall counter-irritants be used? Although we are told that a blister applied to the bony walls of the chest cannot affect the condition of organs within, yet experience is in favor of the practice, and the patient's subjective sensation of relief is more valuable testimony than the deductions of theory. Neither need we be concerned about the blistering point, but put on one not over the præcordia, to interfere with auscultation, but on the side of the chest, in the subaxillary space.

There is a complication of rheumatism—fortunately very rare—in which, without any apparent cause, the temperature suddenly leaps up to 106°, 108°, even 109° Fahr. This state of *hyperpyrexia*, as it is called, is accompanied by delirium and by cardiac and respiratory disturbances. That the grave symptoms of hyperpyrexia are due to the high temperature, is now admitted on all sides, but no adequate explanation has thus far been given of the causes producing it. We only know that in some cases, hyperpyrexia comes on, and paralysis of brain and heart quickly ensues if the excess of heat cannot be removed. Until the value of the cold bath had been made known, there existed no means of diminishing the extraordinary heat, and these cases were always fatal. Now, however, the cold bath affords us the means of rescuing some cases from impending death. The method of the application is the same as for fevers, but if the bath is not available, the wet-pack is a resource which can always be utilized.

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Hospital Notes.

Cases of Stone in the Bladder; Lithotrity at one sitting; Remarks.

The following case which occurred at the Liverpool Royal Infirmary, under the care of Mr. REGINALD HARRISON, is noteworthy, chiefly because of the marked tendency to stone formation, the patient having previously been operated on twice by lithotomy and once by lithotrity. It further illustrates the practice recently advocated by Dr. Henry J. Bigelow, of Boston, under the name of "litholapaxy." (See *American Journal of the Medical Sciences*, January, 1878, p. 117.)

J. A——, a shop-keeper, aged sixty-three, was admitted on April 22, 1879. Eight years before he suffered from symptoms of stone, for which he was cut, and a calculus was removed. Within a year he was again cut at another hospital, and two calculi were successfully removed. During the year previous to admission a stone was removed by lithotrity, and at the commencement of the present year the old symptoms again returned. On admission he was suffering from frequent micturition, pain at the end of the penis, and occasional hæmaturia. The urine was purulent and deposited phosphates in abundance. On examining him under ether with a lithotrite, a round stone of about an inch in diameter was felt.

On April 25th, Mr. Harrison broke up the stone, which was phosphatic, and evacuated the débris after the manner practised by Professor Bigelow. The symptoms were at once relieved, and the cystitis from which the patient had so long suffered gradually abated under treatment. Though the calculus was most completely broken up, there were no signs of hemorrhage, either during the time of operation or afterwards. He left the infirmary on May 15, 1879, passing urine normally, and free from all signs of calculus.

After so extended an experience of stone and its treatment as this patient had undergone, it is not only interesting but proper to record his observation, "That the new plan was the easiest way he had had of getting rid of a stone."

In commenting upon this case Mr. Harrison said that it was another illustration in his own experience of the great value of litholapaxy in suitable cases. The object of this operation was to do away entirely with those ill effects which are produced by the retention and passing with urine of broken pieces of calculi, which by their angles inflict injury on the mucous membrane of the urinary passages with which they come in contact.—*Lancet*, Oct. 25, 1879.

In the same journal Mr. TEEVAN reports the case of a gentleman aged eighty-eight years, who many years previously passed two calculi, and who for a long time had occasionally suffered from pain in the loins, and had passed gravel. One year ago the gravel ceased to appear, now and then he saw a little blood in his urine, and he began to be troubled with frequent micturition, and dull aching pain in the perineum, which latterly increased, and his urine became thick and offensive. For the past three months he had been confined to his bed, got but little sleep, and was excitable and unmanageable.

On examination a hard stone was found in the bladder. As the urine gave no evidence of renal disease, an operation by Bigelow's method was determined upon. In twenty minutes an excessively hard lithic acid stone, measuring one inch and a quarter by one inch, was pulverized and evacuated. The patient's progress after the operation was one of gradual improvement. The highest temperature recorded was 101° on the second day. The urine began to clear on the fifth, and on the eleventh he left his bed, to which he had been confined for three months, and five days later he drove out. Three weeks after the operation he was free from pain and cheerful. He could hold his urine for four hours, and got a good night's rest. The urine was clear and there was no phosphatic deposit.

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MONTHLY ABSTRACT.

Anatomy and Physiology.

Congenital Abnormal Development of the Extremities.

Herr WITTELSHÖFER has published a *résumé* of 46 cases of abnormal development of the extremities; two of these cases have come under his own personal observation. One of these two cases is that of a girl aged 14, who, from her birth, had presented an abnormal development of the third and fourth fingers of her left hand. Both fingers were united, and had reached such a size that it was found necessary to extirpate them. The length of the whole mass was 17 centimetres, its largest circumference 29 centimetres. The secretion of sweat was remarkably strong on the affected parts; the patient herself was very fat. The second case is that of a sickly boy, aged 11, whose lower left foot was hypertrophic, especially the third, fourth, and fifth toes, which formed a tumour of 38 centimetres circumference. This monstrosity occurs more frequently in the upper limbs (31 cases) than in the lower (22 cases); the right half of the body seems also to be more frequently affected than the left. The third finger or toe appears to be more liable to become hypertrophic than the other fingers or toes, but in most cases the neighbouring members become also affected. In 13 cases, the disease had remained restricted to one finger or toe alone; in 23 cases, to two; in 11 cases, to three. In 1 single case, the fifth toe had also become hypertrophic. In 3 cases, both hands were affected; in 1 case, both feet; in 2 cases, both extremities on the same side; in 1 case, the left upper and right lower extremity were hypertrophic. The disease never attacked more than two extremities of the same individual. Both extremities were not always symmetrically affected. It has been proved by careful measurement that in all cases of macrodactylia the whole extremity is enlarged. This affection appears to be congenital, but not hereditary. It is a curious fact that this affection is very frequently combined with syndactylia and abnormal development of the adipose tissue.—*London Med. Record*, Oct. 15, 1879.

Case of Double Vagina and Cervix Uteri.

Dr. WM. R. D. BLACKWOOD, of Philadelphia, reports (*Phila. Med. Times*, Oct. 25, 1879) a case of a virgin with double vagina and cervix. Each vagina was moderately capacious and presented no abnormal features. The cervix on the right side presented at an angle of about ten degrees, bending towards the right, and that of the left side made an angle of probably twenty degrees, pointing towards the left. Each cervix was normal in shape, size, and general characteristics, both canals patulous to the sound, but only so far as the os internum, beyond which, passage at this time was impossible with any justifiable force. Conjoined manipulation by both the rectal and abdominal parietes showed the uterus to be single, with double cervix. The body of the uterus was of the usual size, and was freely movable and not sensitive to pressure. The right cervical canal was subsequently dilated, and the sound passed to the fundus, the depth being two and a half inches; the left cervix was likewise dilated, and the sound measured two and three-quarter inches, the extra distance being attributable to

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the lengthening of the cervix. The uterus was found to be divided into two cavities by a complete vesical septum.

In the examination of the case the fact was elicited that the pain which accompanied menstruation was referred to the left side and was intensified at every second menstrual period. At the time of examination the period in progress was one in which the pain was not increased during the flow. On very careful speculum examination it became apparent that the flow was entirely confined to the right side of the uterus. The next day the examination was repeated, with precisely the same result, and, as the flow was much less abundant, the difficulty of keeping the parts clean was not so great as before. Similar results were obtained on the next day, the last of the period.

On the appearance of the catamenia at the next period the examination with the speculum was renewed. *The flow was now from the left cervix alone.* As before, care was had to exclude possible error, and during the three days ensuing the only difference observable was that the amount of discharge was less than had been observed from the right side, and some little pain was present during the first twenty-four hours. The present month has been the thirteenth since the inquiries began, and in these thirteen periods the regular alternation has been maintained, with a single exception—that in August, when the flow should have been *right-sided*, it was from the *left*, as in the month before.

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Contributions to the Anatomy and Surgery of the Accessory Thyroid Gland.

MADELUNG has published (Langenbeck's *Arch. f. Klin. Chir.*, vol. xxiv. Heft 1, p. 71–107) a very able paper on accessory thyroid glands. The conclusions he has arrived at are as follows: Accessory glands are due to some fœtal malformation or abnormity. Analogies are frequently with the spleen, liver, prostatic gland, the ovaries, the pituitary gland, etc., where accessory glands are often found. He proposes to classify the accessory thyroid glands in five principal groups, according to the position they occupy with reference to the principal gland, viz., glandulæ thyroideæ accessoriæ, superiores, inferiores, laterales, anticæ et posticæ. The vessels which belong to these glands are for the greater part branches from the thyroid vessels; in very few cases they have been traced back to the crico-thyroid vessels. The structure of the accessory glands closely resembles that of the principal gland; they are mostly round or oval, though they may also be flat or bent like a hook, or have long slender processes. They vary in size from a pea to a French bean; the biggest have been found among the gland. thyr. access. superiores. The malformation is not hereditary, though it seems as if some nationalities had a greater tendency to it. They are found more frequently in women than in men, and on the right side of the thyroid gland than on the left, and are often mistaken for lymphoid glands. They are very apt to degenerate into cysts, but strumous degeneration is, on the whole, of rare occurrence. The diagnosis of the latter form of this affection is difficult. The following are the principal symptoms: It begins to develop about the age of puberty, on the right side of the throat in a female individual. It is very apt to change its place and become movable. In cases of retro-œsophageal strumata, the superior thyroid arteries form extensive anastomoses. There are also many local symptoms of pressure on the respiratory tract. The patients often suffer much, especially if the posterior or lateral accessory thyroid glands are affected. In some cases death has been caused by the compression of the œsophagus, the respiratory tracts, the impossibility of swallowing, etc., strictures of the trachea, and softening of the cartilages of the trachea and the larynx. The treatment recommended by the author consists in extirpation of the glands,

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or injections of iodine into the tissues. He has a very high opinion of the latter, and suggests that in cases where the accessory glands are situated between the œsophagus and the spinal column, the injections should take place from the pharynx. In cases of extreme danger, tracheotomy would be indicated. The growth may be extirpated either from the mouth, as Busch and Kocher have frequently done, or by making a long cut along the rectus capitis anterior, after the method adopted by Braum and Kocher.—*London Medical Record*, Oct. 15, 1879.

Materia Medica and Therapeutics.

Salicylate of Iron.

Dr. WALLS WHITE (*Glasgow Medical Journal*, Aug. 1879) prepares the salicylate of iron by dissolving together sulphate of iron twenty-four grains, salicylate of soda thirty grains, and acetate of soda twenty grains, in an ounce of water. The solution has at first a pale port-wine appearance, which darkens on exposure to the air: it has a pleasant taste, and each ounce contains thirty grains of salicylate of iron. Its primary action seems to be to promote secretion, stimulating the skin. It does not constipate the bowels, but rather corrects the alvine secretions. As a prophylactic against septicæmia after surgical operations it is valuable. For diphtheria and the aphthous condition of the tongue in children, in solutions containing 4–10 grains to the ounce, combined with glycerin, or with chlorate of potash, or both, it can be used with freedom as a mouth wash, and as a medicine. In erysipelas it may be given in doses of a tablespoonful, alone or combined with diaphoretics. It promotes perspiration, cleans the tongue, lowers the temperature, and reduces the pulse. It may be administered with freedom and in large quantities in cases of anæmia, without interfering with digestion. In skin diseases also, and in desquamative nephritis where the digestive organs have become weakened, and a salt of iron is indicated, its powers are very marked. Salicylate of iron seems to combine the astringent powers of the iron, but in a minor degree to the sulphate or perchloride, with the antiseptic, antipyretic powers of the salicylic acid. If the preparation is long continued, some of it passes out unchanged with the urine.—*Practitioner*, Oct. 1879.

Relative Action of Duboisia and Atropia.

Dr. SYDNEY RINGER contributes a short article on this subject to the *Practitioner* (Oct. 1879), from which we extract the following:—

Since Mr. Tweedy first brought Duboisia myoporoides to the attention of the profession in England, the alkaloid has been largely used as a topical application to the eye, in a solution corresponding to the officinal preparation of sulphate of atropia, namely, one grain in 120 minims. This application has caused many unpleasant symptoms. In one case under my care the duboisia caused much weakness, depression, and giddiness; he felt as if he were drunk. Another patient said it causes "great discomfort in my stomach, and a feeling as if a huge lump was in my throat. My power of distinguishing one article of food from another by the taste is taken away." In this patient it also caused great giddiness.

These accounts led me to test, with the assistance of Mr. W. H. Neale, the relative action of sulphate of atropia and sulphate of duboisia.

We first administered by the mouth a dose of sulphate of duboisia, and carefully

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noted the symptoms, and we then, on a subsequent day, gave a corresponding dose of sulphate of atropia. On one occasion we gave two doses of $\frac{1}{120}$ grain of sulphate of atropia at an interval of two hours. On five occasions we gave $\frac{1}{120}$ grain.

Duboisia, we find, produces identically the same symptoms as atropia, but is far more powerful than atropia.

After duboisia, the symptoms begin in about half an hour, and reach their height in about two hours. The earliest symptom is dryness of the mouth. After $\frac{1}{120}$ grain, there occurred great dryness of the mouth; dilatation of the pupils; much giddiness, almost preventing walking, and increased by exercise; slight drowsiness and rambling; great weakness, so that the limbs felt heavy and were raised obviously with considerable difficulty, with so much difficulty, indeed, that the woman could scarcely feed herself, and her grasp was very weak. It produced flushing of the face, and on one occasion patchy erythematous redness, the skin at these places being rather swollen and hard. The pulse became much fuller and rather slower. These symptoms lasted about seven to eight hours.

The same dose of sulphate of atropia only produced slight subjective dryness of the mouth. After the administration of $\frac{1}{60}$ grain in two doses, with two hours interval, we observed the same symptoms for the most part. The man became very drowsy and delirious; his delirium was of the busy kind, he incessantly tried to pick up imaginary things from the floor. He had also decided twitchings of his limbs, and his pulse rose from 84 to 120, and his respiration from 18 to 30 per minute. The symptoms left him in about ten hours. The $\frac{1}{60}$ grain of atropia, on a subsequent day, only caused subjective dryness of his mouth.

These observations confirm my previous observations, published in the *Lancet* for 1878 (See *American Journal of the Medical Sciences*, April, 1878, p. 526). I then found that duboisia, in addition to the symptoms above detailed, causes headache, checks perspiration, antagonizes the action of muscarin on the heart, and produces late tetanus in frogs—effects it possesses in common with atropia.

Duboisia, then, possesses the same properties as atropia, but is far more powerful than atropia. Mr. Tweedy found this to be the case in regard to the local application to the eye. But whilst duboisia is far more powerful than atropia on man, the reverse is the case in respect to frogs. Atropia paralyzes far more powerfully the motor nervous system, the heart, and respirations, in frogs, than duboisia.

[For a careful study of the physiological and toxic effects of duboisia the reader is referred to a paper by Dr. Wm. F. Norris, in the *American Journal of the Medical Sciences*, April, 1879, p. 446.]

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Therapeutic Uses of Iodoform.

E. KURZ (*Memorabilien*, August 15) says that he has used iodoform ointment with good result in cases of orchitis, strumous swellings, lymphadenitis, lymphangitis, periphlebitis, and exfoliations in the pelvis. In a recent case of indurated chancre, an ointment of one part of iodoform to ten of glycerine ointment produced a cure in a few days; secondary symptoms, however, appeared afterwards. In another case, a large soft chancre with bacony base and ragged edges on the inner part of the prepuce, was cleansed in a few days by the application of a similar ointment once daily; and the sore was completely healed in a fortnight. A patient with spinal myelitis had for several years suffered from prurigo of the arms and thighs, with moist eczema of the legs. Inunctions of the iodoform ointment produced marked improvement of the prurigo in the course of the week; but the eczema become worse. This was relieved, but not quite cured, by the use of boracic acid ointment. A scrofulous boy, with enlarged cervical glands, was treated by iodoform locally and cod-liver oil internally. After some weeks, no

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trace of the glands could be felt. In a communication to the *Allegemeine Medicinische Central-Zeitung* of September 13th, Dr. Lindermann states that he has found that the balsam of Peru is capable of completely masking the disagreeable odour of iodoform. The addition of two parts of the balsam to one of iodoform is sufficient; but a greater quantity of the former may be used. The best vehicles for ointment are lard, glycerine ointment, and especially vaseline; and for liniment, glycerine, spirit, and collodion. Dr. Lindermann gives the following formulæ. ℞ Iodoformii partem j; balsami Peruviani partes ij; vaselini, *seu* adipis suillæ, *seu* unguenti glycerini, partes, viij. Fiat unguentum. ℞ Iodoformii partem j; balsami Peruviani partem iij; spiritus vini rectificati, *seu* glycerini, *seu* collodii, partes xij. Misce. In making these preparations, the iodoform and balsam should be first rubbed together, and the other ingredients then added. Dr. Lindermann calls attention to the fact that the application of balsam of Peru has been recommended by Dr. Caspari and others in various cutaneous diseases and ulcerative processes.—*Brit. Med. Journ.*, Sept. 27, 1879.

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The Action and Uses of Hyoscyamia.

Mr. Engledue Prideaux, Assistant Medical Officer at the Friends' Retreat, near York, in concluding an elaborate paper on this subject (*Lancet*, Oct. 11, 1879) presents the following as a summary of the results of the use of hyoscyamia in a considerable number of cases in his hospital, and in the cases reported by others, in regard to its advantages and disadvantages in the treatment of the various diseases of insanity.

1. That in most cases of mania, or where there exists great excitement of an aggressive and destructive character or rapidity of movement and speech, the use of the drug is the most effectual and rapid means of exercising that form of restraint which has been termed "chemical restraint."

2. That in cases of acute mania it will produce sleep and quietude when all other drugs have failed, and is one of the most rapid and reliable narcotics we possess.

3. That in the treatment of the epileptic status in epileptic mania it diminishes the number, frequency, and severity of the attacks, especially if its administration be extended over some time.

4. That in delusional insanity, especially the mania of suspicion and other forms of mania where the delusions are varying and changeable, it has a decided action in producing such an altered condition of the cerebral status that a condition which has been termed "physiological mania" results, and this so eclipses the former delusions and hallucinations that they are forgotten and the mind becomes clear; while, if the subjection to the influence of the drug be continued, it ultimately leads, under favourable circumstances, to a permanent condition of quiescence and restoration to a healthy state of mind.

5. That in chronic dementia, associated with destructive tendencies, bad habits, and sleeplessness, the condition of the patient much improves after a continued course of small doses of the drug.

The disadvantages that have occurred in its use, and which have to be guarded against, are: The dryness of the tongue and pharynx that occurs, especially after a prolonged administration. This has been thought to contra-indicate its use in cases of artificial feeding, but provided the tube be dipped into an oily liquid before passing I have not found it any inconvenience. The attacks of vomiting that have occurred in some cases, after an administration of some weeks, necessarily lead to a discontinuance of the drug. Vomiting occasionally occurs after one dose, even a small one, and in two cases, mentioned by Dr. Lawson, hæma-

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temesis took place. Where rapid and sudden action of the drug is feared in feeble cases, it is better to administer it with the food.

Therapeutic Uses of Benzoate of Soda.

Buchholtz discovered that the benzoate of soda possesses in a high degree the power of preventing the development of bacteria in putrescible fluids. Brown found that a previous hypodermic injection of the drug will prevent, to a certain extent, the development of diphtheria from inoculation in an animal. Dr. Schüller, of Greifswald, used it as an antiseptic dressing, but did not find that it possessed any advantages over carbolic or salicylic acid. Given internally, however, he found it very beneficial in several cases of extensive phlegmonous processes in the hand and forearm, and of erysipelas, and in one case of diphtheritic inflammation of the bladder. In all of these cases the fever disappeared entirely, and the local symptoms improved, after from 10 to 20 grammes had been taken. The effect was particularly striking in a case of violent traumatic erysipelas with chill and high fever, in which 25 grammes were taken within 24 hours. The fever began to sink after a few doses had been administered. The remedy also proved useful in some cases of scrofulous articular affections with simultaneous catarrh of the pulmonary apices and persistent hectic. Schüller's formula of administration was: benzoate of soda, 10 grammes; syrup, 20 grammes; water, 200 grammes (℥ijss.—℥v.—℥vjss.). Dose, a tablespoonful four or five times daily, when its use was continued for a long time, and every hour in acute febrile affections.

Prof. Klebs believes that the drug is absorbed very slowly by the intestines when fever is present, and hence recommends its direct injection into the blood. Experimentally it seems to be demonstrated that immense quantities can be injected into the blood without danger; as much as 5 grammes would have to be injected in the case of a man of ordinary size, to prevent the development of bacteria in the blood. The only danger to be feared would be paralysis of the heart, an effect which would be due to the soda rather than to the benzoic acid. Klebs suggests that this danger might be avoided by the use of the less soluble *benzoate of magnesia*. This salt may also be given internally in powder or pills in place of the benzoate of soda, when the latter causes nausea. The *benzoate of lithia* is said to be more soluble than the magnesia salt, and like it to have no action on the pneumogastric.

Letzerich gave the benzoate of soda in eight cases of severe diphtheria in children, and states that no other remedy has produced in his hands such rapid and lasting effects. The temperature usually fell in from 24 to 36 hours. Only one of the patients died—a badly nourished child, who had just recovered from an attack of croup. Besides the internal administration of the drug, it was employed locally by insufflation or gargles. Hoffman, of Berlin, treated 12 cases of diphtheria with the drug; all of them recovered. He believes that the medicine essentially shortened the course of the disease. On the other hand, Widerhofer, of Vienna, treated 17 cases of diphtheria in children with the benzoate of soda, and lost eight of the patients. He does not regard it as a reliable remedy in this disease.

Letzerich also recommends the benzoate of soda in gastric catarrh, particularly in infants, and in this he is seconded by Kapuscinski, of Posen, who administered it in 63 cases of gastro-intestinal catarrh in children under five years of age, with the most striking results. The vomiting was controlled very rapidly, but the drug had no power over the diarrhœa, which yielded, however, to bismuth and soda after the vomiting ceased. He gave one or two teaspoonfuls of a 5 per

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cent. solution of the salt every two hours. Finally the benzoate of soda has been given with good effects in two cases of morbus Brightii, one of which had already presented uræmic symptoms. Five grammes of the salt were given three times a day, and under this treatment the albumen in the urine rapidly diminished, and soon only traces of it were left.—*Med. Record*, Oct. 18, 1879, from *Allg. med. Cent.-Zeit.*, July 16, 1879.

Unusual Effect of a Hypodermic Injection of Morphia.

Dr. Aug. M. Tupper, of Rockport, Mass., reports (*Boston Med. and Surg. Journal*, Oct. 30, 1879) the case of a healthy-looking man, aged about 30, who was suffering severely from lumbago; counter-irritants having failed to afford relief. he injected directly over the seat of pain nine drops of a solution of sulphate of morphia, one grain to a drachm of water with one drop of carbolic acid to keep it. In five minutes the patient was relieved. In about five minutes later he complained of nausea, before a basin could be given to him he grew deadly pale, his eyes rolled up, so that only the whites were visible, jaws were clenched, head drawn back, the whole body stiffened, respiration ceased, and the pulse at the wrist was absent. Cold water was instantly dashed in his face. In about a minute his eyes were observed to be widely open and staring, and the pupils widely dilated. Very soon the colour began to return to his face, he was drenched with perspiration, and recovered consciousness. His pulse was now sixty, full, but irregular.

Dr. Tupper has given the same mixture a great many times without the slightest trouble. The solution was freshly prepared the morning it was used and the same dose had been on the same day injected under the skin of a neuralgic female before using it on the patient whose case is above narrated. The injection entirely relieved the lumbago.

This and similar cases which have been reported from time to time show that in patients whose tolerance to the hypodermic use of morphia is not known, it is not safe to begin with a larger dose than one-eighth of a grain.

Medicine.

Note on the Salicylate and Alkaline Treatment of Acute Rheumatism with an Analysis of One hundred and fifty-eight cases.

Dr. David W. Findlay, Medical Registrar, and Mr. R. H. Lucas, late Resident Medical Officer of Middlesex Hospital, compare (*Lancet*, Sept. 20, 1879) the results which have attended the use of salicylate of soda in the treatment of rheumatism with two other methods most commonly used in the wards of the Middlesex Hospital immediately prior to its introduction.

The salicylate of soda, they say, on account of its greater solubility, and for other reasons which need scarcely be mentioned here, has established its position as the favourite preparation; and our observations refer to it alone as representing the salicin group.

The conclusions which we have to offer for consideration now suffer necessarily from want of novelty, but they may not be uninteresting, as they corroborate in a marked manner many of the observations which have been previously made as to the results of the treatment in question.

In estimating the effect of any drug at the bedside, it is necessary, firstly, to

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review a fairly large number of cases, and, in the second place, to take care that those cases are placed under similar conditions. The results we have to show are those of an analysis of 158 typical cases of acute rheumatism treated in the Middlesex Hospital— 60 by salicylate of soda, 60 by the old alkaline method, and 38 by a combination of alkalies with quinine. All of these cases, with the exception of the drug administered, were treated in a precisely similar manner, and influenced by the same surroundings.

The following are the points to which we have directed our inquiry, with a comparison of the results of the different systems of treatment.

Pyrexia.—The average duration of pyrexia in the cases treated by the salicylate of soda was found to be 5.7 days. In the cases treated by alkalies alone it was 10.3 days; and in those in which quinine was combined with the alkaline treatment it was 11.6 days. It will thus be seen that the first-named drug exhibited a marked superiority over the others. With regard to the influence of the quinine in the last-named group, it is not easy to see how this should have been unfavourable. Probably the smaller number of cases may render the observation of doubtful value, and the drug itself was not given in what would now be considered anti-pyretic doses.

Joint affection.—The difference in result is no less, but rather more, marked under this head; for while the cases treated by the salicylate show an average of 5.06 days' duration, the averages for the treatment by alkalies, and by alkalies and quinine, respectively are 12.2 and 10.07.

Influence on the condition of the heart.—Looking to the power possessed by the salicylate of cutting short the pyrexia and joint affection, one would naturally expect that its influence would appear also in limiting the tendency to the occurrence of endocarditis and pericarditis. This, however, is not borne out by the results of our analysis. Of the cases treated by the salicylate 11.6 per cent. developed endo- or pericarditis under treatment, while the percentage in the case of the alkaline treatment was 6.6, and in the combined treatment 13.1. Too much stress must not be laid upon the comparison in regard to this point, for it must be borne in mind that nearly 70 per cent. of the cases in the first and second group, and over 50 per cent. of those in the third, have some heart complication developed before admission to the hospital, thus leaving a comparatively small number from which to draw any general conclusion. The great probability is that the influence of any method of treatment in averting the tendency to heart affection is very small indeed. It has been dogmatically asserted that pericarditis never supervenes after the system has been got thoroughly under the influence of the alkaline treatment; but this position is obviously untenable.

Relapse.—Hitherto there has been little but praise to bestow upon the salicylate treatment; but we now come upon unfavourable ground. In the cases treated by the salicylate there occurred relapses in 26.6 per cent.; in those treated by alkalies, and by alkalies and quinine, 8.3 and 7.8 per cent. respectively. The results here are very much against the salicylate treatment, and there is a universal concurrence of opinion on this point among all who have investigated the subject. It may be hoped that this undoubted tendency to relapse may be overcome after further experience, and to this end a gradual discontinuance of the use of the drug, together with a longer confinement to bed, and liquid diet, seem to hold out the most hopeful prospects.

Return of pain without pyrexia.—Here, too, the balance of evidence is rather against the salicylate; and it is only what we should expect, looking to the facts detailed in the previous section. Ten per cent. of the salicylate cases show return of pain, as against 6.6 per cent. of the alkaline and 18 per cent. of the alkaline and quinine combined. It should be remarked that the return of pain in the

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salicylate cases has generally taken place after the use of the drug has been discontinued, and the pain has been quickly relieved by a return to the remedy.

Stay in the hospital.—With regard to the stay in the hospital, the alkaline treatment gives the most satisfactory results, the salicylate treatment next, and the combined alkaline and quinine the least favourable. So many disturbing elements, however, come in here in the way of complications, such as pleurisy, bronchitis, pneumonia, etc., that the value of the comparison on this head is but slight. Owing to the shorter duration of pyrexia and pain occurring in connection with the salicylate treatment, convalescence becomes established much sooner than when the other methods of treatment have been employed; and were it not for the dangers of relapse these cases might be discharged at a much earlier period. With the discovery of some modification in the plan of treatment which should obviate this risk, a notable improvement may be looked for here.

In conclusion, we would remark that cases occasionally occur which seem to be quite insusceptible to the action of salicin or its compounds; while, on the other hand, a few so speedily show its toxic effects (such as giddiness, sickness, headache, and delirium) that its use has to be abandoned before it has had time to influence the rheumatism.

It should be noticed that the usual dose of salicylate of soda was fifteen grains every three hours; of the alkalies, fifteen grains of the bicarbonate of potash, with a like quantity of the acetate, every four or six hours; and of quinine, where this was regularly given, two to five grains in pill, thrice daily.

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Spinal Hypertrophic Pachymeningitis.

Dr. BERGER reports several cases of this affection, one of which, that of a woman aged 45, presents features of peculiar interest, as the patient recovered after having suffered for years. After repeated severe chills she had felt violent sharp pains in the cervical vertebral column, and the left elbow and shoulder-joint. At the same time her neck became stiff, and the left arm grew very weak. The muscles of the thumb, the interossei, and the forearm became gradually very much atrophied. The right arm was less affected. The treatment consisted in galvanization of the spine and extremities, the administration of iodide of potassium, and in the production of suppuration of the spinal region. The patient recovered entirely and regained flesh. The author particularly draws attention to the usefulness of warm baths of several hours' duration in the first period of the disease. He has found them answer very well in a case of what seemed to be meningitis of the lumbar vertebra, after typhoid fever. Herr Berger points out that the diagnosis of hypertrophic spinal pachymeningitis can only be made with certainty when atrophy of the muscles has set in.—*Lond. Med. Record*, October 15, 1879.

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Case of Hydrophobic Tetanus.

An interesting case of hydrophobic tetanus is reported by Dr. KIRCHHOFF (*Berl. Klin. Woch.*, No. 25, 1879). The patient, a woman aged 52, happened to fall with her face into some briers. Several of the thorns penetrated her face, but were immediately drawn out by another woman who happened to be with her. In the course of the week following the accident the patient's face was much swollen, then she found it impossible to open her mouth; both deglutition and respiration were much impaired. On the seventh day she fell into convulsions; on the eighth day the left facial nerve had become paralyzed. When first seen in the hospital she was in a half-sitting, half-crouching position, clutching at her lower lip, and trying to pull it down with both hands. A stream of saliva

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ran out of the mouth, had macerated the epidermis of the finger tips and soaked her clothing. Respiration was frequent, the inspiration was not hindered, but every expiration was followed by a short groan, while at the same time a perfect shower of saliva came out of her mouth. Simultaneously her back became more arched, and the head and thorax were slightly turned to the right. The right eye was closed, the left only partially so, the right corner of the mouth was higher than the left, and was drawn towards the right. The pupils were alike and narrow; they reacted to light, and moved normally. On keeping the mouth forcibly open, inspiratory raising of the velum of the palate could be seen. In the left temporal region was a small abscess, which, on being touched, evoked strong tetanic convulsions of the thorax. At the same time the face was drawn more towards the right. The patient was put under chloroform, and an incision made in the wound, whereupon a thorn three centimetres long was extracted. The patient was offered some water to drink, at the mere sight of which she seemed to be filled with horror. It was impossible to make her swallow some with a spoon. The opisthotonos became worse, the head was distinctly drawn backwards. The extremities did not take part in the convulsions. The urine contained albumen. The faradic contractility of the muscles of the left side of the face had not been destroyed; it was, however, much weakened when the stimulus was applied to that portion of the facial nerve which runs out of the stylo-mastoid foramen. This proved that the paralysis was of peripheric origin. The patient was very cyanotic; her pulse was small and frequent. A systolic blowing murmur could be heard at the apex of the heart. The left trifacial nerve was not affected, as seen by pricking the patient's face with a needle, for the right half contracted with an evident expression of pain. The patient was treated with large doses of bromide of potassium and chloral hydrate. She died on the second day of her stay in the hospital. Two hours before her death the temperature was 101.2°; ten minutes after death 104° in the vagina. It is noteworthy that the patient had never been bitten by a dog. At the *post-mortem* examination a cyst of the size of a pea was found in the left corpus striatum; below it was a small grayish focus. The pons and medulla were soft, and dotted with pink spots, but apparently normal. The spinal cord was in the same condition. On examining it with the microscope very numerous corpora amylacea were found in the brain and cord. The thoracic and abdominal viscera did not present any remarkable changes. The left facial nerve was microscopically examined, but no pathological alterations could be detected in it. Reflections: It was very difficult in this case to make correct diagnosis at once, as many of the symptoms, *e. g.*, the unilateral paralysis of the facial nerve, the impossibility to swallow, the convulsions and expression of terror at the sight of fluid, and the restlessness of the patient, seemed all to point more towards hydrophobia. At the same time the opisthotonos, the contraction of the abdominal and masseter muscles all betoken tetanus, as well as the convulsions which were synchronous with the expiration. It seems that Rose has been the only one to notice this peculiar form of tetanus. He has also given it the name of hydrophobic tetanus. Dr. Kirchhoff supposes that in this case the tetanus was owing to a pressure on, or injury of, the facial nerve, and that the tetanus was merely a reflex act.—*London Medical Record*, Oct. 15, 1879.

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Reflexes in the Spinal Cord.

The following cases are reported by Dr. WEISS. A man, aged 26, had received a blow on the neck. This was immediately followed by paraplegia and anæsthesia of the lower extremities. The upper extremities had remained normal, with the exception of occasional tonic spasms of the flexor muscles. Reflex

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irritability was extinct on the lower extremities, and the remaining anæsthetic parts of the body, and remained so till the patient's death, which ensued on the third day after the accident. The bladder and rectum were paralyzed. The *post-mortem* examination revealed a fracture of the sixth cervical vertebra, which had involved destruction of the cord at the corresponding place. The other case is that of a man, aged 36, who had fallen down unconscious after a leap. Both upper and lower extremities were paralyzed. Sensibility was extinct in the lower extremities, and the trunk up to the nipples, bladder and rectum, were paralyzed. The *post-mortem* examination showed that the ligament between the fifth and sixth cervical vertebræ had been divided; the vertebræ were dislocated, and the cord destroyed. This seems to prove that the reflex irritability of the cord decreases immediately after it has been separated from the brain, and that this condition lasts for some time.—*London Med. Record*, Oct 15, 1879.

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Treatment of Chorea with Ether Spray.

Dr. MAREIGLIA describes (*Annali Clinico dello Ospedale incurabili*, anno iii. fasc. v.), in detail, four cases of chorea varying in severity as well as in cause. All had commenced with an alteration in the voluntary movement, after which disturbance of sleep and involuntary movements had appeared. In two cases these symptoms were accompanied by affections of the speech, whilst in one the movements were restricted to the right side, affecting only the facial muscles. In two cases, likewise, the cause was fright, in one a previous attack of meningitis, and in one rheumatism. The age of the patients varied from 7 to 14 years, and they were treated in every case with the ether spray as recommended by Lubelsky. The spray was directed along the whole length of the spine by means of a Richardson's apparatus for a breadth of 7 cm. The application was continued for 3–4 minutes, and was made twice, thrice, and even four times a day. With the exception of the second case, which had lasted for three months, the disease had not continued for more than fifty days. The treatment with ether was carried on for 17–30 days, except in this second case, where the disease was of more than two months' standing, in which it was continued for forty-five days. Dr. Mareiglia describes the result of this mode of treatment as being immediately successful. The symptoms were lessened on the first application of the ether spray, and there was a marked improvement within the week. In the first successful case there was no reddening of the skin which had been subjected to the ether spray, such as had been noticed by Jaccoud, but there was a marked paleness with the formation of "goose-skin."—*Practitioner*, Oct. 1879.

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Hypodermic Injections of Fowler's Solution in Chorea.

Dr. L. PEROUD, Professor of Diseases of Children to the Faculty of Medicine of Lyons, has employed hypodermic injections of arsenic in chorea since 1875. M. HENRI GARIN describes in his thesis (*Thèse de Lyon*, No. 14) results obtained in thirty-three cases of chorea in children at the Charité Hospital. In the method followed by M. Péroud, usually four or five drops of pure Fowler's solution are injected into the cellular tissue by means of a Pravaz's syringe. An injection is made every day; sometimes every second or third day. The region preferred for injection is some part where there is loose cellular tissue and few nervous filaments. It is sometimes preferable to inject at the level of muscles most affected. The cases related occurred in female children from the age of 4½ to 14½. Among them were recent, old, and relapsed cases; cases of rheumatic, of paralytic, and of cerebral chorea. M. Garin's reason for preferring subcutaneous injections are these: first, they do not give rise to gastric disturbance; second,

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the curative effect is generally more rapidly obtained; third, only very small doses administered every two or three days, are needed. Subcutaneous injections cause little trouble in children; they give rise to no local irritation, although sometimes, when the organism has become saturated, slight induration occurs at the punctures. Sometimes intolerance of arsenic is met with; but this is rare, especially in children, who take it very well. Under the influence of hypodermic arsenical medication, rapid amelioration is the rule. At the same time that the chorea advances to cure, the children become fat, the weight of the body progressively increases, and the amount of solid matters excreted by the kidney diminishes. Under the influence of arsenical injections, sixteen cases of chorea ended in recovery after an average of thirty-two days' treatment and about eighteen hypodermic injections. In these sixteen cases the treatment was purely arsenical. Of thirteen other cases of chorea submitted to injections of arsenic and also to various other remedies, ten recovered; but a longer time was necessary. These thirteen were, moreover almost all old or relapsed cases. Hence it may be concluded that arsenic has more chances of cure in recent and simple cases than in old and inveterate cases. This is contrary to the assertions of Aran and Ziemssen.—*Brit. Med. Journ.*, Sept. 27, 1879.

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On Stammering.

At the recent International Medical Congress held at Amsterdam, M. CHERVIN, of Paris, read a paper on stammering. This disturbance of speech is generally ascribed to a spasm of the muscular apparatus that aids in the articulation of sounds. This theory, which is essentially false, has led surgeons to perform many unfortunate and useless operations (section of the tongue or of certain of its muscles, of the hyoglossus; extirpation of the tonsils, the uvula, etc.). M. Chervin thinks that stammering is caused simply by a disturbance in the co-ordination of the movements that are necessary to emit an articulated sound. This explains how it is that this disturbance of speech is frequently of an intermittent type; and why, under the influence of a methodical treatment, which is in reality only a series of gymnastic exercises, that are practised by the apparatus which helps to form articulate sounds, it is possible to cure this affection in a very short time. The author has gathered from statistics that, from 1850 to 1869, 13,215 young men in France were exempted from serving in the army because of stammering. Great discretion must, however, be exercised in delivering certificates on the subject, as stammering is very easily counterfeited. In general, fright and emotion play a great part in the etiology of the affection. It occurs more frequently in the male sex than in the female, which the author attributes to the fact that young girls are less exposed to violent emotions. The treatment lasts about three weeks. During the first week, the patient has to go through methodical exercises of reading and recitation for a certain number of hours daily; for the remainder of the time, he must be perfectly silent and isolated from his friends. In the second week, he is allowed to speak to his attendants or friends, but must speak very slowly, and pronounce each syllable distinctly. In the third week, the patient may converse freely, but must still speak very slowly.—*British Med. Journal*, Sept. 27, 1879.

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Treatment of Diphtheria by the local application of Bromide of Potassium.

At a late meeting of the Société de Thérapeutique (*Gazette Hebdomadaire*, Oct. 17, 1879) M. Dujardin-Beaumetz presented a paper in the name of Dr. PEYROT (of Libourne) on the treatment of diphtheria by direct local applications of bromide of potassium. This paper is based on 42 observations, in which the

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results of this treatment were most satisfactory. M. Peyrot sometimes uses a solution of from 15 to 20 grammes of bromide of potassium dissolved in 100 grammes of water and in glycerine, sometimes a very fine powder of bromide of potassium, which he employs by insufflation; he has also used the solution in pulverization. The object he has in view is first to destroy the false membranes, and then facilitate the renewal of the mucous membrane.

M. DUJARDIN-BEAUMETZ added that bromide of potassium possesses caustic properties, less active, however, than those of chlorate of potassa.

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Morphia in Asthma.

M. HENRI HUCHARD has published (*Le Progrès Médical*, July 5, 1879) an interesting series of investigations upon the eupnœic action of morphia, more especially in regard to the rapid cure of asthmatic attacks by the employment of hypodermic injections of this drug. M. Huchard briefly narrates four cases which he has treated, and then proceeds to quote the favourable opinions of authors who have already made trial of morphia in dyspnœa. M. Huchard believes that opium is of use in certain cases of asthma to combat the spasmodic affection, and he even ventures to regard it as one of the chief remedies. It is readily understood how the bronchial spasm may be reduced by the rapid absorption of morphia, though the drug is less serviceable in bronchial catarrh, and is almost useless in emphysema. Morphia is not only a remedy in sudden attacks of asthma, with great orthopnœa and but little chronic pulmonary mischief, but it is also of use to alleviate in a very short time an old and organic state of the lung. Great benefit is derived from its employment in cardiac pseudasthma, in uræmic dyspnœa and in the last stage of phthisis. In every case the morphia seems to act by alleviating the cerebral anæmia, and the lesions of the medulla. It plays an important part in the therapeutics of heart disease, as has already been demonstrated by M. Huchard, who sums up his previous results in the statement that morphia is to aortic diseases what digitalis is to mitral affections. The morphia must be administered subcutaneously in dyspnœa, and the injections may be given without any fear of morphinism. M. Huchard believes that morphia causes respiration, and that this eupnœic action is apart from its narcotic effect. In any case his results are readily verified in every-day practice.—*Practitioner*, Oct. 1879.

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Tuberculosis in Infants.

From a consideration of nine cases of tuberculosis in infants from ten weeks to ten months of age, including seven fatal cases with necropsies, Dr. ALOIS EPSTEIN (*Prager Vierteljahrsschrift*, Band 142), concludes that the presence of the disease in infants is in most cases due to infection with the milk of a tuberculous mother, and not to hereditary predisposition, as is usually supposed. Two of the children were the offspring of healthy mothers, but one was suckled by a phthisical wet-nurse. Seven were the children of phthisical mothers. In one of the cases, there were intestinal ulcers and cheesy infiltration of the mesenteric glands. The author remarks that the tuberculosis of infants and young children differs from that of adults in the great frequency with which the lymphatic glands, and especially the glands of the small intestines, are affected, and also in the comparative rarity of pulmonary disease in children. These facts appear to indicate that the starting-points of tuberculosis in children and in adults are different; and that, while in adults and older children it is breathed in, it is sucked in by infants and young children.—*British Med. Journal*, Oct. 18, 1879.

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Hypophosphites in Phthisis.

Dr. COGHILL, in a critical review of the value of the hypophosphites of lime and soda, gives the results of this treatment in 100 indiscriminate cases where it was fairly tried in the Royal National Hospital at Ventnor. 57 improved, 17 remained in *statu quo*, 26 got worse, and 4 died. Of 328 patients otherwise treated, 240 improved, 39 remained in *statu quo*, 25 got worse, and 20 died. "It seems evident from these statistics that the hypophosphites have no claim whatever to the character or properties of a specific remedy in the developed stages of pulmonary consumption." "In only 25 per cent. of the cases could they be employed unaided, and these were cases in which change of climate, improved dietetic and hygienic conditions with general tonic treatment, would probably have shown good results. Great disappointment resulted from their impotency in checking such characteristic symptoms of the disease as night sweats, or influencing favourably the febrile conditions indicating advancing lung mischief. That, however, these salts have, when judiciously employed, valuable tonic properties, promoting the appetite, the digestion, and the assimilation, more especially of fatty food, was strongly impressed on all. They have certainly no specific influence (so far as I have been able to form an opinion, after the most careful and unbiassed observation) either in arresting, when in progress, or markedly promoting repair when stayed, the several forms of pulmonary phthisis, whether tubercular or pneumonic." Although by no means specific in the tubercular diathesis, still, Dr. Coghill highly values the hypophosphite of soda as a nervine tonic, and perhaps even as a tissue-builder.—*Lond. Med. Record*, October 15, 1879.

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Relation between Heart Disease and Hysteria.

M. ARMAINGAUD (*Journ. de Méd. et de Chirurgie*, May, 1879) publishes two cases which appear to show that there is a relationship between cardiac lesion and hysteria in man, such as is already known to exist between heart disease and chorea. In one of these cases, a man, aged 28, suffered from mitral insufficiency accompanied by contraction of the aorta; he also experienced oppression, palpitations, and various phenomena indicating cerebral anæmia, with hysteric convulsions. For a month these attacks occurred two or three times a week. The treatment adopted by the author consisted in the hypodermic injection of morphia, to relieve the cerebral anæmia. The drug in doses of a centigram was at first given daily, but at a later period it was found that two injections a week were sufficient. By this means the convulsions were entirely removed, whilst the phenomena of cerebral anæmia so far disappeared as to allow the patient to resume his occupation.—*Practitioner*, Oct. 1879.

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Henning on the Appearance of the Tongue in Disease.

(1) The *elongated* and *pointed* tongue invariably indicates irritation and determination of blood to the stomach and intestines. The extremities are often cold. It is also associated with excitation of the nerve centres. This tongue is often found, but more especially among children. The indications are to allay irritation and divert the blood from the stomach and bowels. We should be very careful how we make our prescription in such cases, as, if we give an irritant cathartic it invariably aggravates the disease. (2) The *pinched* and *shrunken* tongue indicates atony of the digestive organs, often found in dyspepsia and kindred diseases. The treatment is plain, the pathological conditions being evident at a glance, from the appearance of the tongue. (3) The coating

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(*saburra*) or fur should be well studied. It may be greater or less in thickness, dry or moist, or clammy, more accumulated at the posterior portion. It is said that when the tongue is heavily coated at the base, with a deep yellow coat, the liver is at fault. This is not always the case; and, from my observation, more often not the case. I have seen cases of jaundice with a white-coated tongue. Tobacco chewers nearly always have a yellow-coated tongue, and their liver may be sound. (4) The *dry* tongue has a very important significance. When we have patients who are suffering from some form of fever, pneumonia, or any other acute disease, with such a tongue, they are in danger, and require close attention. In such cases nutrition and assimilation are suspended, and food cannot well be taken, and, if taken, cannot be properly assimilated. When given, it should be in fluid form, and always above the temperature of 100°, and of a character nutritive and digestible. The digestive organs can do but little work, yet proper food given at proper intervals does good; but these organs need all the rest they can get until the disease is subdued. Dryness of the tongue is also associated with vascular excitement, and particularly with excitation of the ganglionic and nerve centres. Hence the arrest of secretion and this dryness. Here we readily read the state of the *nervous system*. In many cases, the sympathetic nerve is not only excited and irritated, but there is involuntary contraction of muscular tissue, thus suspending the secretions of the several organs. The indications are, proper sedatives for the vascular excitement, and diaphoretics for contractions or excitement of the nerves, associated with other proper treatment. By this course we shall soon see our patient with a moist tongue, and some of the secretions re-established. (5) Often the tongue changes in the disease from the dryness above referred to to a brown or black colour, with sordes about the teeth. The common idea is that the system is in a typhoid condition. This is true; yet it undoubtedly means, also, that the blood is in a septic condition—a very important fact for us to know. Then our best antiseptics should be given, with stimulants and tonics. Thus we can readily read, from the appearance of the tongue, the condition of the digestive organs, function of nutrition and assimilation, the condition of the nervous system, and the state of the blood. Of course, we must take all other symptoms into consideration. Yet the appearances of the tongue, as pointed out, seldom fail in giving us, at a glance, valuable information as to the true condition of the system.—*London Med. Record*, Oct. 15, 1879.

Treatment of Diarrhœa in Tuberculous Patients.

The following dietetic rules for the treatment of diarrhœa in tuberculous patients are given by M. PÉTER (*Lyon Méd.*, No. 32): 1. Diarrhœa owing to catarrh of the stomach. Give subnitrate of bismuth dissolved in a little water. Strict diet. If cod-liver oil disagrees with the patient, koumiss must be given in its stead. A teaspoonful of lime-water must be added to every cup of milk which the patient drinks. 2. Diarrhœa caused by excess of food and insufficient digestion. Give one and a half grammes of ipecac. to cause vomiting, and a purgative the next day. The diet must be carefully regulated. 3. Diarrhœa owing to gastro-enteritis caused by ulcerations. Strict diet; very little milk, a soft-boiled egg without bread, or beaten up in beef-tea, raw grated meat, about 20 grammes at a time, blisters on the epigastrium, bismuth, diascordium, theriæ, laudanum. The skin of the abdomen must be rubbed with Cologne water, alcohol, etc., or large blisters applied. Nitrate of silver may be given in pills, containing 1 centigramme each, increasing gradually to 5 centigrammes. Graves even went as far as 25 centigrammes *pro dosi*.—*London Med. Record*, Oct. 15, 1879.

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Coto Bark in the Diarrhœa of Phthisis.

Whatever difference of opinion may exist as to the desirability of attempting to arrest the less severe forms of diarrhœa which we encounter in early phthisis, no one can doubt the value of a remedy which will help us to control the grave and exhausting attacks of diarrhœa which occur in its more advanced stages. Dr. J. BURNEY YEO (*Practitioner*, Oct. 1879) is persuaded that we possess such a remedy in coto bark, and he expresses this opinion with all the more confidence because it has not been arrived at hastily, but represents the observation and experience of more than two years.

During this period, he says, I have given it in many cases of apparently uncontrollable diarrhœa, that is to say, cases of diarrhœa which were not controlled by the ordinary remedies, such for example, as opium, bismuth, tannin, ipecacuanha, etc., and I have found it almost invariably have the effect of arresting the intestinal flux, and of relieving intestinal pain and irritation in a very short time. I say "almost" invariably, for when I first gave it I found no such good result, and on inquiry I found that one of my colleagues had employed it also without effect. This led me to consider the mode of its administration. I found my colleague had given it mixed with other substances and made into pills, and I had given it, in the first cases in which I tried it, blended with the Mistura Cretæ of the Pharmacopœia. It is deserving of notice that when given in both these forms it appeared inert; and one might have been induced to hastily discard it as a drug without remedial value. This is probably the fate of many valuable medicines which appear to fail; not from want of virtue in themselves, but from want of patience and attention in their mode of administration.

Finding that the fluid extract contained a resinous element which was precipitated in tough masses when the extract was carelessly mixed with water. I had the following mixture carefully prepared:

Fluid extract of coto 60 minims.

Compound tincture of cardamoms, 60 minims.

Mix these together and triturate them slowly with mucilage of acacia, 3 drams, and simple syrup 2 drams.

Finally add water to 6 ounces.

A tablespoonful of this mixture is a dose. In this form it is an opaque mixture, with a not unpleasantly warm and aromatic taste. I have usually found two or three doses of this mixture arrest or check the severest forms of phthisical diarrhœa.

The bark is imported from Bolivia in South America, and the preparation I have used is the fluid extract prepared by Ferris & Co., of Bristol. The dose is from 5 to 8 minims. An alkaloid *cotoin* has been prepared from the bark, and is reported to have the same valuable properties as the extract of the bark itself, but of that I have no personal knowledge.

I may add that I suggested its use in a case of exhaustive and uncontrollable diarrhœa in one of the graver forms of exophthalmic goitre, which I saw in consultation with my friend Dr. Chaning Pearse, of Brixton; and he has since informed me that it not only arrested the diarrhœa, but also appeared to have a remarkable influence in allaying the distressing nervous phenomena associated with the case. I am quite sure that coto bark is a valuable remedy which ought rapidly to come into general use.

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Hydrate of Chloral in Dysentery.

Dr. CURCI finds (*Il Racogliatore Medico*, Nos. 15–18, 1878) that chloral hydrate is serviceable in the diarrhœa of typhoid. He has therefore employed it

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during an epidemic of dysentery in seventeen cases, always with the best results. At first it was administered in combination with potassium chlorate, but afterwards the latter drug was omitted, and the chloral was given alone in a mess of barley-gruel, either by the mouth to the extent of 1–3 grams per diem for an adult, or as an enema (10 grams in 2000 grams of gruel being sufficient for ten enemata). When given by the mouth it is found advisable to administer some slight purgative beforehand to prepare the bowels for the reception of the remedy. Hydrate of chloral is not only a soporific remedy for dysentery, as was supposed by Dr. Prince, who first pointed out its value in this disease, but it has also a sedative, astringent, anti-spasmodic, and anti-diarrhœic action, in addition to its local coagulating and antiseptic properties. If it only lessened pain by producing sleep, its action would be but transitory, whereas it is very persistent, being in reality a sedative to the brain and spinal cord as well as to the sympathetic system of nerves, and it is the latter system which is chiefly affected in dysentery. After the use of chloral it is found that the evacuations are lessened, whilst the flatus, which is such a painful symptom in the disease, is diminished. In regard to the local action of hydrate of chloral, it must be considered that one part is absorbed in the intestine, whilst another is passed on by peristaltic contractions into the cæcum, and colon. After administration in a mucilaginous vehicle in doses of 2–3 grams, the peristaltic movements are at first increased, but then ensue diminished sensibility and movement. These phenomena are due to the stimulation and subsequent paralysis of the sympathetic, and it is in this way that the chloral lessens the pain in the bowels, and the secretion. If the administration be continued till recovery takes place, the chloral exhibits its properties of coagulating albumen, destroying the organized ferment, and hastening cicatrization. In conclusion, Dr. Curci enumerates the other remedies employed in dysentery, and states his opinion that purgatives administered in the early stages of the disease alone approach in value to chloral hydrate. He condemns antiphlogistic treatment, as well as that of opiates and astringents. He has known no good results obtained from the use of ipecacuanha, the so-called radix antidysenterica, since it only acts as an emetic, and is without effect upon the other processes of the disease.—*Practitioner*, Oct. 1879.

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Bright's Disease and Primary Cirrhosis of the Kidneys.

At the International Medical Congress held at Amsterdam in September, Professor ROSENSTEIN read a paper upon this subject of which the following are his conclusions:—

1. The anatomical lesions of the kidneys, which determine the group of clinical symptoms first described by Bright, always involve the parenchyma as well as the connective tissue of those organs. 2. There is neither an exclusive parenchymatous nephritis nor an exclusively interstitial nephritis. Experiment and clinical observation show that where a true diffuse renal inflammation takes place both histological elements are affected from the commencement. 3. The final issue of diffuse renal inflammation is the white kidney and the red granular kidney. They form from the anatomical point of view the atrophied kidney, and only differ in this, that the parenchymatous affection is more pronounced in the former, the interstitial affection in the latter. Clinically the two may be distinguished by analysis of the urine. The symptoms of atrophy are common to both modifications. 4. Clinical observation makes it very probable that, just like the white kidney, the red granular kidney—or, as it is now called, "primary cirrhosis"—is preceded by periods of swelling; and this is not contradicted by pathological research. 5. Bright's clinical description relates especially to the granular white

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kidney. In this form the morbid process passes through two stages, which can be determined clinically as well as pathologically.—*Lancet*, Sept. 20, 1879.

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Colloid Degeneration of the Skin.

A case of this rare skin disease is reported by M. ERNEST BESNIER in the last number of the *Gazette Hebdomadaire*. The patient, a man aged forty-six, entered the St. Louis Hospital in July, 1879, for extensive pityriasis. It was then noticed that the upper part of his face was the seat of a peculiar eruption having the appearance of "citrine" vesicles. These varied in size, from a bright-yellow spot only visible with the aid of a lens, to a mass as large as a grain of corn. Upon pressure and puncture it was found that the eruption was vesicular only in appearance, and upon scraping the skin a colloid substance came away in the curette. Similar deposits of this gelatinous matter were seen on the inner side of each cornea, and one patch existed on the septum, in the left nostril. Locally the eruption did not seem to have caused any trouble, at any rate not before the patient's attention was called to it. The general health was satisfactory; urine normal; the liver and spleen were healthy; the appetite and digestion good, although the patient sometimes suffered from colic and pneumatosis. The only complaint made was of occipital headache, which occurred daily. Microscopical examination of a portion of the skin showed that the lesion consisted of a colloid degeneration of its connective tissue. M. Besnier thinks that this case is analogous to one related by E. Wagner in the *Archiv der Heilkunde* for 1866, and improperly described as "colloid-milium."—*Lancet*, Oct. 18, 1879.

Surgery.

Indications and Contraindications for Operations in Individuals suffering from Constitutional Diseases.

At the late International Medical Congress held at Amsterdam, Prof. VERNEUIL spoke at length on the pathological importance of this question. His communication may be shortly summarized as follows: 1. Surgical operations are not formally contraindicated in individuals who are affected with constitutional diseases. They may be performed under such circumstances, are often useful, and in some cases even very necessary. 2. Their prognosis is much more serious than in healthy individuals. It is less certain, and more difficult to make; for we have no clue whatever as to the favourable or deleterious effect that the traumatic lesion may have on the general health of the patient; neither can we judge in what way the disease will affect the local process of healing. 3. The prognosis varies according to the different constitutional diseases, and for each of them considered individually. It varies also according to the degree of the alterations that have taken place in the different parts of the body. 4. The danger attached to the diathesis is not great as long as it is still confined within the boundaries of dyscrasia. It increases considerably with the manifestation of chemical and histological lesions. It becomes alarming when the principal viscera—such as the liver, kidneys, spleen, heart, lungs—are extensively affected by sclerosis, steatosis, amyloid degeneration, phlogosis; or when they present pathological products that belong specially to certain diathetic conditions—*e. g.*, tubercles, gummata, carcinomata, and various neoplasms. 5. We are not justified in depriving diathetic individuals of the benefit of surgical intervention, even

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in cases where it might be dangerous. It must be the aim of the practitioner to render the prognosis less serious, and to assure the success of the operation. He will succeed in doing this if he be very careful about choosing the most favourable moment for the operation, adopting the best method for performing it, and applying the most efficient dressing. He will also do well in putting the patient under a hygienic, dietetic, pharmaceutic treatment—in a word, under a medical treatment which is adapted to the constitutional disease. 6. The practitioner must be thoroughly well acquainted with the etiology, pathology, development, the end, and the medical treatment of constitutional diseases, in order to make sure of the indications or contraindications for the operation. In this way, he will be better able to judge whether he had better perform the operation or not, and to calculate with more or less precision what the chances may be. A knowledge of these conditions, which perhaps all surgeons do not possess to a sufficient degree, would tend rather to prevent surgical operations than to encourage them, and would inspire the operator with a higher degree of confidence in the efforts of nature supported by a comparatively mild therapeutic treatment. 7. A conscientious examination of the immediate or future effect of operations performed on individuals under some constitutional diathesis will tend to destroy many of our illusions respecting the power of surgical art. It is sad to say, though we must say the truth, that complete and lasting favourable results are very rare. No doubt, there may be many successful operations; but the therapeutic results may be far from successful. A manifestation of the diathesis or some intercurrent affection may be suppressed; but frequently the constitutional disease increases in force and rapidity. Many patients suffering from cancer and scrofula would live longer if they had remained under medical treatment, instead of passing through the hands of surgeons. 8. It is only just to add that, although the aforesaid operations are more frequently attended by palliative than by curative results, nevertheless they are sometimes extremely useful. In extreme cases, they may prolong life, render it less hard to bear, and give the patient at least a gleam of hope. In less serious cases, and where the constitutional disease may be successfully treated, the operation has a good effect upon the treatment, by allowing the medical man to gain time, suppressing an immediate cause of danger, and giving the therapeutic treatment greater scope.—*British Medical Journal*, Sept. 27, 1879.

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On the Cure of Simple Glaucoma by Sclerotomy.

At the late meeting, at Montpellier, of the French Association for the Advancement of Science (*Le Progrès Médical*, Sept. 6, 1879) M. Jaumes (of Montpellier) read in the name of M. DE WECKER, who was prevented from being present, a paper on this subject, in which he recalls in a few words the history of the question, and in particular the treatment instituted by Graefe.

M. de Wecker has proposed to find an operation for the treatment of simple glaucoma, which would be to this lesion what iridectomy is to inflammatory glaucoma, and thus to complete in its generality the treatment of glaucoma.

The operation which he suggests is sclerotomy, and he enters into quite extensive details as to the manner of performing sclerotomy, as he has practised it; he does not conceal that this operation is quite a delicate one, that it necessitates a certain amount of experience, and he insists upon this essential point, that it ought always to be preceded by instillations of eserine.

Passing on to the results of the operation, M. de Wecker states that during the first six months of this year he has performed forty-eight operations of sclerotomy, and that he has had every reason to congratulate himself upon the results obtained.

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Iridectomy diminished vision to a great degree; he has been fortunate in proving that this difficulty is considerably lessened by the employment of sclerotomy.

He acknowledges that the definitive sanction of this operation can only be found in a more protracted clinical observation; but he is happy to state that at present sclerotomy, although its application is so recent, has been practised and adopted by a relatively large number of foreign practitioners.

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Foreign Body in the Base of the Orbit without Symptoms.

At a meeting of the Medical Society of Greifswald (*Deutsche Medicin Wochenschrift*, August 16th), Dr. SCHIRMER related a case in which a foreign body had remained five months in the orbit without producing remarkable disturbance. On February 20th, a soldier aged 25 came to the eye-clinic on account of entropium of the left lower eyelid; the middle part was specially affected, being turned inwards at an angle. The cause of this was apparent in the form of a cicatricial band extending from the edge of the lid to the lower fold; it implicated the conjunctiva and a portion of the tarsus, but left the cutis free. Another vertical cicatrix passed through the thickness of the whole upper eyelid, not quite reaching the edge. There was also a vertical cicatrix nearly an inch long on the forehead, reaching as far as the left eyebrow. In the previous October, during a fight, it was said, the patient had been wounded in the forehead and upper eyelid by a knife; but the eye had not been injured. These wounds were united by sutures; the injury of the lower lid was not noticed. The entropium had set in soon afterwards. On examination, it was found that the conjunctival cicatrix was firmly adherent to the base of the orbit; and it was hence supposed that the instrument which produced the injury had penetrated the antrum of Highmore, and had pushed a portion of the lower fold of conjunctiva into the opening of the bone; and that, perhaps, also a broken portion of the knife remained there. No foreign body, however, could be felt with certainty in the orbit. An incision about four-fifths of an inch long was made through the soft parts along the lower border of the orbit; and the floor of the orbit was explored with a blunt instrument as far as the cicatrix. At this part, there was found a broken piece of knife, with its back turned towards the border of the orbit, and its edge towards the eyeball. Some force was required in removing it. It was a piece of a knife, about an inch and one-third long and three-fifths of an inch wide. After its removal, the lower eyelid regained its normal position, and the patient was discharged completely cured.—*British Med. Journal*, Oct. 18, 1879.

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Acute Purulent Catarrh of the Right Middle Ear.

The following interesting case is recorded by Dr. KRATZ in the *Berlin. Klin. Wochenschrift* for April 21st. The patient, a girl, aged 9, had always enjoyed good health till about a week before she was seen by the author. She was then suffering from purulent catarrh of the right middle ear; and, on examination, a small opening of the size of half a lentil could be detected between the incus and the lower portion of the tympanum. The mastoid region was tender to pressure and œdematous; the external meatus was inflamed; the tympanum red, flat, and much swollen. The whole meatus was filled with thick yellow pus. The glands about the ear were swollen; but the parotid was free. The patient had a slight angina and fever. Her power of hearing was much impaired on the right side. When spoken to in a very loud key, she could hear at the distance of about twenty inches; the ticking of a watch only when put close to her ear; but the sound produced by a tuning-fork was distinctly heard over the whole of the head. After the meatus had been well syringed and all the pus removed, the opening in the tympanum could distinctly be seen. On pressing slightly with the finger on

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the jugular vein of the same side, pus was very rapidly discharged through the opening, the discharge ceasing when pressure was removed. This phenomenon was repeatedly produced, not only on the same day, but several days successively. The origin of it remains unexplained, as, under normal conditions, the jugular vein does not communicate directly with the interior of the tympanum. The possibility of an abscess having formed on the vein and communicating with the tympanum must be excluded, as nothing in the state of the patient proved its existence; and, besides, the circumstance that the pus was only discharged by pressing on the vein would disprove such a supposition. Another explanation of the phenomenon was, that the perforation was either a congenital deficiency or caused by caries. Under such circumstances, pressure on the jugular vein would drive the blood upwards, cause the bulb of the vein to dilate, and thereby cause the pus which had accumulated in the tympanum to be discharged. Similar cases have been observed by several authors—Toynbee, von Tröltsch, Schwartz, etc. The author was of opinion that the aperture was congenital.—*British Med. Journal*, Sept. 27, 1879.

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Depression of the Left Frontal Protuberance treated by Trephining.

Dr. HOUILLOT publishes in the *Gazette Médicale de Strasbourg*, No. 1, 1879, the following case of injury to the brain, which was cured by trephining. The patient a farm-labourer, aged 28, had, in a fight, received a blow on the head with a cudgel, which stunned him for about a quarter of an hour. On the next day, he went to his work as usual, and worked for eight days, at the end of which time he fell down suddenly as if he had been shot, but got up again. From this time, he began to suffer from vertigo and somnolence. A careful examination was made, but nothing could be detected except slight paresis of the right arm and tremor. He vomited much during the day. A probe having been introduced into the oblique wound which he had on his forehead, it was found that the frontal bone was fractured and depressed. The patient was taken to the hospital, and it was decided to perform the operation at once. A cruciform incision of one and a half inches was made over the wound, and an opening measuring four-tenths of an inch in depth and one inch across was discovered. The fragments of bone having been removed by means of a hammer and chisel, a purulent collection was found beneath the dura mater. The latter was detached from the brain for a space of nearly two and a half inches, but had remained intact. The pulsations of the brain could be perceived. An antiseptic dressing was applied. There was almost no reaction; the temperature never rose beyond 98.6°; and the cerebral symptoms (cephalalgia, vomiting, slow utterance) disappeared almost immediately. The progress of cicatrization went on very rapidly; and the patient, who had been wounded on May 4th, was able to return to his work on June 14th.—*British Med. Journal*, Sept. 27, 1879.

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Total Extirpation of the Parotid Gland.

In an interesting paper read before the Finland Medical Society (*Hospitals Tidende*, Jan. 1879), Professor ESTLANDER stated that the entire parotid gland had rarely been removed. Though the operation has many opponents and is difficult, it is, nevertheless, necessary and proper in certain cases, notwithstanding the danger of wounding important nerves and vessels. Though the complications which sometimes accompany the operation are unpleasant, they are not so permanent as many suppose. Estlander has had some of the patients under observation for twenty years or more, and found their condition very much improved. Notwithstanding the fact that all the branches of the facial nerve are severed in

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the gland, the patient has a certain power of contraction in the sphincter muscles of that side. Tumours may be removed from this region just as well as from others. In performing the operation, it is recommended not to ligate the carotid primarily. The cutaneous incision should be made so as to prolong it, if necessary, and then ligate the arteries. By prolonging the incision farther downward than is actually necessary, the advantage is gained of rendering the lower border more free and accessible, so that the position of the carotid and its relation to the tumour may be ascertained. The capsule of the tumour should be protected, so that the latter may be removed as a whole. First loosen the tumour at its lower border and sides, and gradually work upward; the upper portion usually presents the greatest difficulty. The bleeding from the branches of the external carotid is about the same whether the carotid is ligated or not. It is usually found that a tumour which can only be removed at the commencement with the knife and scissors, is later more accessible, and can be loosened with the fingers and the handle of the scalpel, and without coming in collision with the carotid.—*New York Med. Journal*, Oct. 1879.

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Surgical Treatment of Goître.

Dr. WÖLFLER, in speaking of the treatment of goître with subcutaneous injections of iodine, says (Langenbeck's *Archiv*, Bd. 24, Heft. 1) that favourable results have been obtained both in cases of simple hyperplasia, and of colloid degeneration. He illustrates his statement by a few cases from Billroth's clinic, and an experiment on a dog made by himself. The lobes of the thyroid gland of this dog had respectively attained the size of a goose's egg, and the author made ten injections of iodine into one of the lobes. The dog was killed at the end of a month, when the portion of the goître into which the injections had been made was found to have dwindled down to the size of a man's thumb; it consisted of connective tissue which no longer contained any colloid liquid. The peripheric part of the injected goître presented the same appearance as the lobe which had remained untouched; it consisted of large meshes of connective tissue, which contained colloid fluid. There were no traces of inflammation or hemorrhage following the injection of iodine. Several strumous cysts were treated in a different manner: one cyst with thin walls was absorbed after injections of iodine; two other cysts resisted this treatment. In two cases Billroth drained strumous cysts with antiseptic precautions. In one of these cases, the cure was speedily effected; in the other, the cyst was not wholly absorbed, as there were calcareous deposits in its walls. The sac was then opened and the contents removed, after which the patient, a woman aged 72, recovered. The author thinks that tapping the cyst and putting in a drainage tube ought to be done in cases where a cyst does not collapse immediately after being tapped, or in old people where the injection of iodine might be succeeded by a too strong reaction, but where extirpation of the goître might prove fatal. In the course of the last year, Billroth has extirpated goîtres in seven cases under antiseptic precautions, the results having each time been very favourable. In one of these cases the patient was suffering from malignant cystous papilloma; in another case the struma was of carcinomatous nature. All the wounds healed by first intention.—*London Med. Record*, Oct. 15, 1879.

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A Case of Empyema in which Portions of the Ribs were Excised.

At a recent meeting of the Clinical Society of London (*Med. Times and Gazette*, Oct. 18, 1879) Dr. F. TAYLOR read a paper on this subject. The patient was a child, aged six, who was admitted into the Evelina Hospital in

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January, 1877, with a history of acute pleurisy eleven weeks previously. The left chest was shrunken, and dull on percussion posteriorly, with deficient breath-sounds, and some crepitation at the base in front. The temperature was at first nearly normal, but after a time it fluctuated considerably, often rising in the evening to 103° Fahr. As this continued, and the physical signs were confined to the base of the left chest, this was explored on April 16, and pus was found. The chest was then incised, and about ten ounces of pus were discharged. Tubes were inserted, and the chest washed out daily. On May 20 a counter-opening had to be made, but by the end of June very little real progress had been made, as the sinuses rapidly closed, and thus the pus secreted was retained. On July 2, Mr. Howse made a T-shaped incision through the skin round the existing aperture, and after separating the periosteum, removed with the bone-forceps portions of the seventh, eighth, and ninth ribs. Each portion was about an inch and a half long. The thickened pleura was then cut through from the sinus, and two drainage-tubes were inserted. The immediate improvement was decided, but the wound rapidly filled up, and in a short time the sinus was reduced to a channel no bigger than it was previous to the operation. From this time nothing further was done by operation. The pus continued to be secreted, and its retention was quickly followed by hectic symptoms. Albuminuria was discovered in September, 1877, two months after the operation; anasarca developed later, and there was frequent diarrhœa, so that she sank from the internal complications in October, 1878. At the post-mortem examination the empyema was found to occupy chiefly the posterior part of the chest, reaching from base to apex. The lung was airless except at the apex. There was no tubercle. The sixth, seventh, and eighth ribs were united by bony bridges. The liver, kidneys, and intestines were lardaceous, and there was recent acute peritonitis. The operation performed in this case permitted more falling in of the chest than would have otherwise taken place, but did not facilitate the drainage so much as was desired. This was due to the rapid development of granulations and bone, which took place after the operation, the opening being quickly reduced to a narrow sinus. In another case it would probably be advisable to remove the periosteal tissue much more freely, even if it necessitated also the removal of the thickened pleura. The large opening thus obtained would also allow more complete exploration of the smaller cavities, apparently distinct from the main cavity, such as were found in this case at the time of the operation.

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Total Unilateral Rupture of the Kidney.

Dr. ANDERS, in No. 50 of the *St. Petersburger Medicinische Wochenschrift*, gives the following account of an interesting case. The patient, aged 15, a well built and well nourished individual, fell from the second floor of a house to the ground, but was not rendered insensible. He said that he had first struck the ground with his feet and then with the right hip. No symptoms of external injury could, however, be seen, except a slightly purplish spot over the right trochanter. No fracture of any kind could be traced, neither was there any symptom of concussion of the brain or spinal cord. He could not walk very well, but was able to move his extremities freely when lying in bed. The pulse was small, 60. Sensibility was not decreased. He freely passed bloody urine. The patient complained of severe pain in the abdomen, especially in the left renal region, but nothing abnormal could be detected in that part, either on inspection or palpation. The epidermis, and those parts of the mucous membranes which were visible to the eye, were exceedingly pale. The urine, on being examined under the microscope, was found to contain a large number of red blood-corpuscles Towards night, the patient grew weaker, his abdomen was inflated, he frequently passed

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bloody urine, and complained of an increase of pain in the left lumbar region and the abdomen, especially if touched there. The symptoms of internal hemorrhage increased; he was a little delirious during the night. On the next morning, the mucous membrane seemed to be perfectly bloodless, while the skin was yellow. During the night, the urine was very little bloody, and on the morning quite clear. The patient died at 11 A.M. The treatment consisted in applying ice-bags to the abdomen and the lumbar region, and in giving several doses of morphia during the stage of prostration. At the necropsy, the thoracic viscera and the brain were found perfectly normal. On opening the abdominal cavity, several superficial subperitoneal extravasations, varying in size from a three penny-piece to a penny-piece, were seen, both on the visceral as well as the parietal peritoneum, especially in the portions which corresponded to the cæcum, descending colon, sigmoid flexure, and parts of the ileum. A dark blue tumour of the size of a child's head, extending from the iliac fossa to above the tenth rib, and covering the three superior lumbar vertebra, was found in the abdominal cavity. It consisted of coagulated blood, in which the kidney, which had been torn into two distinct halves, was found imbedded. The rupture was transverse, going from the anterior superior part of the organ to the posterior inferior, and extending over the capsule and the pulp. The pieces were about two inches distant from each other, and entirely separated from their adhesions. The ureter was torn off, and was attached, to the length of two inches, to the lower fragment; the renal vein and artery were in the same condition. The right kidney was perfectly sound. The peritoneum was not ruptured. No fluid was contained in the abdominal cavity, and no blood in the bladder. Dr. Anders remarks that this case belongs to a class of rupture of the kidneys which very seldom comes under observation. 1. All the other organs remaining unaffected, the left kidney only was the subject of an indirect injury. 2. Death was caused by acute anæmia, as shown by the large clot of blood which was found in the left renal region and the hæmaturia. 3. The vein, artery, and ureter, were all three divided. 4. The reason why no blood was passed with the urine in the morning is, probably, that the blood being still liquid for the first hours after the accident, flowed down the divided ureter into the bladder; but later on coagulating stopped it, so that the urine which was secreted by the right healthy kidney remained clear, and was passed as such.—*British Med. Journal*, Oct. 18, 1879.

The Stigmas of Maize in Disease of the Bladder.

Dr. DUFAU (*Le Progrès Médical*, July 19, 1879), believes that the introduction of the stigmas of maize into therapeutics is still too recent to afford sufficient material for the study of their mode of action. He puts forward, however, certain conclusions at which he has arrived, founded upon cases which have occurred in his own practice, as well as from the contributions of numerous friends. The stigmas of maize have a much greater influence in all diseases of the bladder, whether in cystitis, gravel, or any other case, when they are fresh than when they have been kept. In acute traumatic cystitis as well as in blennorrhagia, they exert a marked diuretic action, with an increase of the pain. In such cases, therefore, it is better not to make use of this drug. The best results from its use are obtained in the case of patients with gravel, either uric or phosphatic, or in those who are suffering from chronic cystitis, whether the disease is simple or is a result of gravel, and in mucous and muco-purulent catarrh of the bladder. Under the influence of the maize all the symptoms, such as vesical pain, difficulty in passing water, the excretion of dark-coloured urine, the ammoniacal odour, etc., rapidly disappear. The retention of urine frequently gives way to this mode of treatment, but the catheter should still occasionally be used, as the

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bottom of the bladder is not always completely emptied. Many of the patients under observation had previously employed the more usual remedies of tar, turpentine, and Vichy or other mineral waters, with varying results. The stigmas of maize often afforded relief where such means had failed. In some cases a certain improvement was effected by the methods alluded to, after which the condition of the patients remained stationary. The administration of the stigmas of maize produced in these cases either a cure, or a turn for the better, and induced a favourable action of the previous remedies. In other cases, however, these preparations which had been of no avail when first given, became efficacious after the ground, so to speak, had been cleared by the stigmas of maize. More generally, however, the maize alone was capable of effecting a cure. In some cases it is well to combine the maize treatment with the usual external applications; of these the irrigation of the bladder with a stream of water is very useful, but the best method is to inject various solutions, such as borax, tar, silicate of soda, or bicarbonate of soda if the urine is very acid, and benzoic acid if it is strongly alkaline, etc. The stigmas of maize act as very energetic but perfectly harmless diuretics in diseases of the heart, in albuminuria, and generally in all those cases in which an ordinary diuretic is required. In a number of cases the quantity of urine is increased three and even fivefold within the first twenty-four hours, and in other cases this drug has been employed for two months without accident. It is useful to remember this fact, as the diuretics in ordinary use, nitrate of potash, digitalis, squills, etc., are not always convenient, or free from danger. The mode of preparing the stigmas of maize, has been already described, but it is not perhaps sufficiently well known. The stigma as a decoction give the same results as the extract, but they are much less active and have an irregular action which is easy to explain. The plants are picked and dried under varying conditions, and they are sometimes even ground, hence the decoction varies in strength from day to day. The extract and syrup, however, having always the same composition, give constant results, and as the volume is less, a much larger dose of the drug can be administered. From an economical point of view it is best to give the syrup in the decoction of stigmas. It is in fact of great importance, as with all diuretics, to dilute the syrup with a certain quantity of water; the results obtained with the extract given in the form of a pill differ sensibly. The syrup, with a decoction or with water, forms a very pleasant drink, of which patients do not get tired. The drug should be taken fasting. Two or three teaspoonfuls of the syrup a day are generally sufficient.—*Practitioner*, October, 1879.

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Radical Cure of Hydrocele.

Mr. HILLIS having had much experience of the treatment of hydrocele in British Guiana, and having been disappointed with the results obtained by using iodine in the proportion of one of tincture to two or three parts of water, was induced to try the undiluted tincture of the *British Pharmacopœia*. Two to four drachms are thrown into the sac after tapping, and the sac gently manipulated for some time. Cases of previous failure, cured by this plan, are reported in order to impress upon the profession the real value of this old, yet often forgotten, suggestion.—*London Med. Record*, Oct. 15, 1879.

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Hemorrhage from the Carotid Artery in a Case of Phlegmonous Tonsillitis.

EHRMANN reports (*Centralblatt für Chir.*, No. 34, 1879) the following instructive case:—

A young Italian entered the hospital with an *angina tonsillaris*. On the third day the abscess opened spontaneously, and immediately one half a litre of bright-

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red blood poured from the mouth. Three hours later the hemorrhage recurred, but in less quantity. No pulsation could be felt in the tonsillar tumour. A third hemorrhage, more severe than both of the preceding together, led to the ligature of the common carotid artery, which was then severed, between two double threads. The hemorrhage ceased. The patient presented no cerebral disturbance aside from a distinct aphonia, which disappeared in four days. In six weeks he was discharged cured.

Ehrmann completes his interesting and valuable essay with the following conclusions: 1. Phlegmonous inflammation of the tonsils can lead to abundant and spontaneous hemorrhage, an accident likewise occasionally caused by deep ulcerations. 2. In many instances the bleeding comes directly from the internal carotid, in occasional cases from branches of the external. 3. The diagnosis of erosion of an artery before opening of the tonsillar tumour is impossible. In occasional instances pulsation of the tumour has given warning before the incision was made; in others it was not distinguishable. The rational treatment of such a hemorrhage lies in the ligature of the carotid; and, as during life the source of the bleeding, whether from the internal or branches of the external carotid, cannot be determined, the common carotid is to be preferred. The original article contains a very useful *résumé* of the whole subject, with cases; views on the source of the hemorrhage in general diseases and local affections, which may lead to erosion of an artery; the cerebral disturbances, which may follow ligature of the common carotid, etc.—*New York Med. Journal*, Oct. 1879.

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A Method for Controlling Hemorrhage during Amputation at the Hip-Joint.

The following might be found useful as a method for controlling hemorrhage during operation at the hip-joint. It was employed by Mr. Spence with complete success in a case reported (*Lancet*, Sept. 20, 1879) by Mr. R. PURDIE, Resident Surgeon, Edinburgh Royal Infirmary.

The patient was admitted into the Royal Infirmary in a very weak and debilitated condition, the history being that two years previously he had suffered from scarlet fever, and that during his convalescence he had neglected proper precautions against cold, etc. Abscesses formed at the hip, the leg became quite useless, and his health gradually became more impaired. During his journey here erysipelas of a phlegmonous nature developed itself, lasting for some weeks, and leaving the whole leg in a swollen, œdematous, deformed mass, with sinuses leading down to the joint, which was in a state of firm fibrinous anchylosis.

Mr. Spence, though unwilling to perform any operation, owing to the patient's condition, yet, considering it was his only chance for life, resolved to amputate, using the following method, in order the more completely to control the hemorrhage. The sinuses which were at the outer side of the limb were connected by an incision. The head of the femur was cut down upon, and, with difficulty, owing to the anchylosis which had taken place, was excised. The thigh was then transfixed by a long sharp-pointed steel skewer, three-eighths of an inch in breadth, the point entering at the incision which has just been made, and then taking the course which the knife usually takes in transfixion for the anterior flap. A firm india-rubber band was then twisted tightly round the skewer, including the anterior part of the thigh, much after the method in which vessels are secured by acupressure. Another band was twisted round posteriorly, thus securing the posterior vessels. The operation was then completed by cutting the anterior and posterior flaps. After the vessels were secured the bands were loosened, the skewer removed, and the flaps stitched and dressed. During the excision a small quantity of blood was lost, but during the after-part of the operation scarcely a drop.

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Mr. Spence remarked to the students after the operation that this method was most advantageous in cases such as the preceding, where a comparatively firm anchylosis had taken place, or in cases where the shaft has become separated at the trochanters by diseased action, great difficulty being found in removing the head of the femur, and the operation thus prolonged. In cases where none of these difficulties are met with, this method is not so necessary, as the leg can be removed with great rapidity, and the vessels grasped in the hand after the flaps are cut, so that no great amount of blood need be lost, the rapidity of the operation diminishing also the amount of shock.

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Outbreak of Eczema on Amputated Stumps.

At a recent meeting of the Société de Chirurgie de Paris, M. DUPLAY said (*Bull. Gen. de Thérap.*) that he had seen two cases of an acute eczema breaking out on the extremity of amputated stumps. One case was that of a man who had had his arm amputated for phlegmon of the tendon sheaths and suppurated arthritis; the other patient had had his leg amputated for fracture. Neither of them had suffered before from arthritis or herpetic affections. Neither had there been any other inflammatory phenomenon on the extremity of the stump. In both cases the eczemata healed within six months. This eruption appears to be caused by a neuritis of the nerves of the stump, and ought to be considered as an affection of the trophic centres, though the real cause of it is still unknown to us. The affection in itself is not dangerous, but tedious, because it prevents the application of a prothetic apparatus. The treatment is the same as in ordinary eczemata, and the affection may be said to heal of its own account.—*Lond. Med. Record*, Oct. 15, 1879.

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Spontaneous Anterior Subluxation of the Hand.

Dr. MADELUNG publishes, in von Langenbeck's *Archiv* (vol. xxiii), a report of twelve cases of this affection which have come under his notice. In one of the cases, he was able to make a thorough anatomical examination. The upper border of the articular surface of the radius had degenerated into a tuberosity, which prevented the carpus from assuming its normal position; the epiphysis of the radius was considerably inclined towards the volar surface. There were no signs of inflammation. The author regards this deformity as dependent on an arrest in the growth of the wrist-joint, and as being analogous to talipes valgus and genu valgum, which are caused by excess of weight pressing on the lower extremities. This spontaneous subluxation is most frequently met with in the age between thirteen and twenty-three, and in females belonging to the working-classes, especially laundresses. The movements of the joints are limited to a certain extent by the arrangement of the bones, the ligament, and the muscles. The latter are of special importance for the movements of the wrist-joint. The manual labour of daily life is almost entirely executed by the pronator muscles. Excess of flexion on the palmar surface is prevented by the tendons which run across the epiphysis of the radius, and, in arduous manual labour, exercise a constant pressure on the bone. When this muscular apparatus is unable from exhaustion to discharge its functions any longer, the bones and ligaments take its place; and thus gradually the excessive pressure on one part of the articular surface of the radial epiphysis arrests its further growth, and favours the excessive development of those parts which are not subject to pressure. This deformity of the articular surfaces is always accompanied by pain in the affected joint, which has often been erroneously ascribed to neurosis. If the patient continue to work as before, subluxation of the joint ensues, the pain ceases, and the wrist-joint becomes deformed

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and much limited in its movements. When the affection is fully developed, it becomes incurable; but it may be arrested by carefully avoiding all labours which entail a forced dorsal flexion, and by wearing a broad leather strap which fits tightly to the joint, can be made tight or loose according to the wearer's will, and prevents the articulation from executing excessive movements.—*British Med. Journal*, Oct. 18, 1879.

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Excision of the Elbow.

Prof. OLLIER, of Lyons, in a paper read at the Montpellier Congress (*Gaz. Hebd.*, Sept. 12), observed that at the commencement of his practice he performed this operation only exceptionally; but having recognized its value he finds that his results are much more satisfactory than formerly—a fact which he thinks attributable not only to improvements in operating, but especially to improvements in dressing. In spite of the great success which he has obtained, this operation is still practised but little in France, while abroad, especially in Germany, it is perhaps too frequently resorted to. In very young children Prof. Ollier very rarely performs excision, nature presenting great resources at this age, so that by the aid of a good hygiene, a tonic diet, immobilization, and ignipuncture, arthritis of the elbow may be rapidly and completely cured. In the second stage of childhood and in adolescence it should be practised at an early period, as the cure is then rapid and the reproduction of an articulation of the same type usually takes place, the patient preserving a vigorous limb. Beyond twenty Prof. Ollier seldom performs the operation, a useful limb rarely being produced after this age.—*Med. Times and Gazette*, Oct. 4, 1879.

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Subperiosteal Excision of Elbow.

At a late meeting of the New York Pathological Society (*Medical Record*, Oct. 25, 1879), Dr. LANGE exhibited a patient upon whom he had performed subperiosteal excision of the right elbow-joint, after Prof. Voight's method, and gave the following history: Patient was nineteen years of age, and had a stiff right elbow from his early childhood. He knew nothing about the cause of this trouble. The arm remained thin and powerless, and any exercising caused pain in the joint, especially during the last two years. Various methods of treament were employed but without avail, and the patient finally resolved to get rid of his trouble by an operation.

At that time the patient was in good health. The right elbow was anchylosed at an angle of 90°, with a mobility of nearly 10°. The tissues about the joint were somewhat thickened, but no fistula or other indication of existing suppuration was present. The olecranon and head of the radius seemed thickened, and they were very painful on pressure, showing chronic ostitis. The operation was performed on the 25th of June by means of a bilateral incision, antiseptically made without spray, and by the bloodless method. The periosteum was carefully preserved; in all those places where important tendons or ligaments had their insertion (olecranon, coronoid process, epicondyles of humerus, etc.), thin layers of bone were separated by means of hammer and chisel, and remained in connection with the periosteum, according to the plan of Voight.

The operation was somewhat tedious and difficult, the periosteum being thickened and tense, and all recesses of the joint obliterated. Lister's gauze dressing was applied. The after-treatment consisted of a dorsal splint of plaster-of-Paris, with elevated position and slight extension. The position of the arm was about 150°. After the tenth day position was changed every second day to the extent of from 75° to 150°. At the end of the third week, articulated silicate dressings

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(with shoulder piece), which had a movable joint and rubber strips, were applied corresponding to the new joint. The joint allowed a slipping of the bones of the forearm upward and backward, according to the physiological position of the ulna. Active and passive movement were freely practised by causing the patient to lift a box filled with sand, the amount of which was increased every day. These exercises effected a stretching of the elbow. The arm, by means of the strip, was held in a right angle. The weight of the sand was chosen always a little beyond the strength of the patient to master it, so that it slowly extended the arm, the patient endeavouring to prevent this, and struggling against the weight by the power of his muscles. The rubber strips kept up a passive dragging of the ligaments and held the bones in a certain adaptation.

After the seventh week the apparatus could be omitted, the new formation of the bones being very significant, and almost complete cicatrization had been complete at end of fifth week. There had not been any significant discharge since the second week, only those places discharging superficially where the drainage-tube had been introduced.

The reaction after the incision had been quite insignificant. A bloody infiltration of the arm and forearm disappeared under the physiological changes of colour, and was reabsorbed without interfering with the healing process.

When the patient was exhibited to the Society, just three months after the operation, the elbow presented nearly its abnormal shape. Motion was between 80 and almost 180 degrees, without any abnormal lateral movability. The condyles of humerus appeared stronger than normal. Pro- and supination almost normal (had been exercised also methodically every day, the apparatus being removed for this purpose). The head of the radius was well marked, and normally faced the external condyle. The olecranon was distinctly formed, but was a little smaller than normal. Above its apex something like a sesamoid bone could be felt in the triceps tendon. The arm was so strong that the patient was able to lift a chair, seizing it by the leg, and after stretching the arm he held the chair a good while in the air. The flexion to an acute angle was difficult. The specimen showed deep depressions in the articular part of the ulna, especially one behind the base of the coronoid process. Its walls were hard and smooth; they were covered by a dense fibrous tissue which surrounded a small quantity of cheesy matter. All the depressions in the bone were filled with a succulent fibrous tissue, which sent vascularized adhesions to the opposite cartilage; so the process was on its way to cicatrization. The bones of the humerus were almost normal; cartilage of radius showed some cicatricial depressions; its head had an abnormal process towards the articulation, with the ulna, which was entirely obliterated by a dense fibrous mass.

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The Rapid Treatment of Club-foot.

Mr. H. A. Reeves, Surgeon to the East London Hospital for Children, describes (*Med. Times and Gaz.*, Oct. 25, 1879) his method of treating club-foot, which is applicable to the large majority of congenital or acquired deformities of the feet; but the milder cases—those in which slight pressure will bring the foot into the normal position, and in which the rebound on relaxing the grasp is very slight—can, with patience, be cured without operation.

The patient being held by a nurse or assistant, and the foot being in the right position, the tendons of the tibialis posticus and flexor longus digitorum are first divided, and a pad and strip of adhesive plaster applied. Then the tendon of the tibialis anticus is divided, and a pad put on. Immediately after the tenotomies, the foot is forcibly but steadily brought into its right position, and kept there by

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an assistant while a flannel bandage is put on. Over this is put a plaster-of-Paris bandage, then a thin layer of plaster paste, and finally another bandage and more paste. Sometimes a third plaster bandage is necessary, but in infants and children it may be dispensed with. Of course, the bandages must not be too tightly applied, and it is well to protect the bony prominences with a little cotton-wool. The foot is held in position until the plaster has set; and instructions are given to the parents to bring the child at once to be seen, or they are told how to loosen or remove the bandage should the toes become cold and purple.

If the inner part of the plantar fascia be tense and interfere with the straightening of the foot, Mr. Reeves divides it first, forcibly stretches it, and at once thereafter divide the tibials and flexor longus digitorum. He adopts this plan, which differs from that usually recommended, so that the uncut tendons may resist him, and thus enable the anterior part of the foot to be more successfully abducted. In most instances he leaves the foot in the plaster case for a week; but in the more severe cases ten days to a fortnight are necessary. At the expiration of this time the bandage is removed, and the foot will be seen to have assumed its proper position. It is then well worked (*i. e.*, abducted), afterwards the tendo Achillis is divided, and the heel firmly but gently brought down. The pad and bandages are put on while the foot is held in the corrected position, the toes being left free, but the heel covered. Another week or ten days usually suffices by this method to bring the deformed foot into its normal position, and then the bandage is removed by cutting it in the mid-line, along the anterior aspect of the foot and leg. The foot is then well worked in the desired directions and the leg-muscles shampooed. The mother sees how this is done, so that she or her husband may occasionally do it at home, and the child is brought once a week to be seen by the surgeon.

If the child be old enough to walk, it is measured for a proper boot and support at the commencement of the treatment, and in most cases in three weeks after the first operation it is allowed to walk. The foot is well worked night and morning, and the second plaster bandage is put on at bedtime and retained in position by an ordinary roller. This is ordered to be continued for several weeks in order to prevent a relapse. Except in very severe cases an anæsthetic is unnecessary, but in private practice, should it be desired to prevent the child crying, it may be given.

Mr. Reeves has now had considerable experience in this as well as in the ordinary modes of treating club-feet, and so far has never had a relapse if the instructions have been properly carried out. He can therefore confidently recommend it to surgeons interested in such matters.

The advantages of the method proposed are briefly the following:—1. The results are rapid and satisfactory. 2. Expensive apparatus is unnecessary. 3. The muscles, joints, etc., are worked and exercised, and not allowed to atrophy or become temporarily fixed, as in the German method; and, 4. The patient, in ordinary cases, may be allowed to use the foot or to walk in three weeks after the first tenotomy.

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Traumatic Tetanus: Different Methods of Treatment.

Dr. MOLLIÈRE relates the following case in the *Gazette des Hôpitaux*. The patient, aged 25, had been accidentally shot in the right foot. The fourth and fifth toes were so badly injured that they were amputated at once; the first phalanx of the third was fractured and the articulation opened, but it was thought that it might be preserved. The patient was treated antiseptically, and seemed to progress well during a fortnight, when suddenly he began to complain of a feeling of lassitude, the wound became very painful, and he experienced some

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difficulty in opening his jaws and turning his head. The toes were dressed with laudanum, and the patient took half a drachm of bromide of potassium and a drachm and a half of chloral daily; he had also two hypodermic injections of morphia. Notwithstanding this treatment, the patient became worse, the pain in the foot increased, and all the symptoms of acute tetanus showed themselves; he had general convulsions, could not move his head or open his mouth, perspired abundantly, had very high temperature, etc. The wound becoming exceedingly painful, the injured toe was amputated. From that day the local pain ceased, and the other symptoms gradually vanished. The patient remained sleepless for a rather long time, notwithstanding the use of hypnotics, but could open his mouth more freely, and could swallow. Smaller doses of chloral and bromide of potassium were given, and a month after the operation the patient was well enough to leave the hospital. On dissecting the toe which had been removed, it was found that a small sharp fragment of bone was sticking in the internal lateral nerve, and had in this way caused the tetanic convulsions. This case is remarkable on account of the different methods of treating tetanus having been combined in the treatment. Without the amputation, the drugs given would have had no effect; but on the other hand, if the powerful doses of hypnotics had not been administered, the surgical treatment would, in the author's opinion, have proved useless.—*British Med. Journal*, Oct. 18, 1879.

Supra-orbital Neuralgia cured by Nerve-stretching.

Dr. KOCHER relates, in the *Correspondenzblatt für Schweizer Aerzte*, November 11th, 1879, the case of a man aged 32, who had for seventeen years suffered from neuralgia of the right supra-orbital nerve. The attacks, at first rare, afterwards became more frequent, until at last there were only brief intervals of freedom from pain. All the ordinary therapeutic measures had been tried for years without success. Dr. Kocher laid bare the nerve and three of its branches by an incision along the upper border of the orbit, and stretched it forcibly by means of an aneurism-needle passed under it. The healing of the wound was attended with abundant suppuration. From the moment of the operation, the patient was free from pain, and the neighbourhood of the supra-orbital nerve was anæsthetic. The patient was last seen three months after the operation; he had had no return of the pain; sensation was diminished over a space ten *centimètres* in extent, but was otherwise perfectly restored. After neurectomy, paroxysms of pain are usually observed during the first few days after the operation. As these were absent in the present case, Dr. Kocher concludes that the lesion of the nerve is less when the nerve is stretched than when it is divided. The value of nerve-stretching as a substitute for excision will be greater in neuralgia of the second and third divisions of the fifth nerve, as here a much smaller wound will suffice.—*British Med. Journal*, Oct. 18, 1879.

Midwifery and Gynæcology.

Double Uterus with Double Conception.

Dr. SOTSCHAWA, of Moscow, reports in the St. Petersburg *Med. Woch.*, Jan. 1879, the case of a woman, aged 26 years, who called him on account of a hemorrhage occurring during a third pregnancy. On examination he found two distinct vaginas, each one terminating in a uterus. The finger passed readily through the first of these, and he found an ovum presenting; the uterus seemed to correspond

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to about the second month of conception. The vagina of tne other side (right) was narrower, but the neck could be reached, and appeared to belong to a uterus of three months. The hemorrhage had its source in both uteri, and in consequence was considerable; an embryo of one month was extracted with the finger from the left uterus, and three days later a fœtus of three months was extracted from the right uterus. The author observes that this case is not only remarkable for its rarity (only thirty cases being on record) but also because it is a proof of the possibility of superfœtation.—*Chicago Med. Journ.*, Nov. 1879.

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The Condition of the Cervix Uteri in Cases of Placenta Prævia.

Dr. GEORGE ROPER, Physician to the Royal Maternity, London, calls attention (*Lancet*, Oct. 25, 1879) to a hitherto unrecorded fact, which consists in a peculiar induration of the os or cervix uteri, at the site of placental attachment, dependent on an alteration of the uterine texture of that part on which the placenta is implanted. From clinical observation it may be said, that wherever the placenta grows, whether on the fundus or elsewhere on the inner uterine surface, the area of attachment is marked by induration and thickening of the uterine tissue, and in Dr. Roper's experience the induration has constituted one of the greatest difficulties in the way of safely effecting forced delivery.

If we have to deal with a case of placenta prævia in which the placenta is centrally placed, then there is induration in the entire circumference of the inner os; if with one of a partial kind, then we have a demonstrative proof, in that we are able to compare that part of the os internum to which the placenta is attached, with that portion to which it is not attached; the former will be found indurated and unyielding, the latter soft and elastic.

Dr. Roper does not wish to be understood as overlooking the undeveloped state of the lower part of the uterus in these cases, occurring as they mostly do before full term; and in speaking of the os or cervix uteri, he means the os or margin of the orifice of the uterus proper. A great distinction is to be drawn between the os internum, which is firm and thick, and the thin flabby cervix with its soft outer os.

The limits of Dr. Roper's paper did not permit him to dwell on the importance of this condition in reference both to the treatment of placenta prævia and its prognosis after forced delivery.

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Ovarian Pain in Pregnant Women.

It is well known that, in examining pregnant women and trying to ascertain the position of the fœtus by abdominal palpation, the accoucheur will sometimes hit upon a spot which is so tender that a very slight pressure is apt to produce very severe pain. Dr. BUDIN'S attention having been drawn to the subject, he has studied it carefully, and has come to the following conclusions (*Progrès Médical*, March 1, 1879). The pain is limited to one particular spot, and has never, with one exception, been known to appear spontaneously, but is always caused by external pressure. On a level with the spot, a small body can be felt moving about under the exploring finger; it is of ovoid form, generally of the size of an olive, and can be moved transversely, though not up and down. If we draw an ideal line from the navel to the anterior superior iliac spine, we find this object either above or under or on the line itself. Dr. Budin thinks it the ovary. In following the back of the fœtus with our finger, we easily provoke the pain and find the ovary. In other cases, it could only be felt rolling under the finger when the uterus was contracted. The contraction having once ceased, it was very difficult to find it again. The left ovary seems to be much more tender to the touch than the right one; the pain is also generally prevalent on the same side. This is

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probably owing to the position of the fœtus, which lies generally with its back turned to the left and forwards. In two cases, however, where the child's back was turned to the right, the right ovary was painful. It is not yet decided whether this ovarian pain is spontaneously provoked during labour, and whether it can be produced after the ovum is expelled. It is also possible that ovarian pain has been mistaken for a peculiar form of neuralgia which has been called by several authors rheumatism of the uterus, or for the pain which is often caused by the head pressing on the uterine wall. Not one of the women in whom this phenomenon has been noticed was hysterical, so that evidently the pain could only be attributed to the compression of the ovary.—*Brit. Med. Journ.*, Sept. 27, 1879.

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The Treatment of Abortion.

Dr. J. VEIT is the author of an interesting paper in the *Zeitschrift für Geburtshülfe und Gynäkologie*, Bd. iv. 163, upon the treatment of abortion. In it the views lately promulgated on that subject by Fehling in the *Archiv für Gynäkologie* are discussed and disputed. Dr. J. Veit regards the methods of interference recommended by Fehling as too active, and would recommend a more expectant treatment in the majority of cases, contenting himself with careful plugging of the vagina when there was hemorrhage of a severe kind and waiting, thus avoiding forcible dilatation, incision of the cervix, or the use of the curette. He urges strongly that in estimating the results of treatment in abortion we must not forget those inseparable from the operative measures we employ to end it. The author, however, recommends active measures to empty the uterus in such cases of delayed abortion as threaten danger to the mother from absorption of putrescent portions of the ovum or of its envelopes. An account of two such cases is given, where the author was led to hurry the expulsion of the contents of the uterus on the sudden occurrence of rigor and high fever. Temperature 105°. Both cases were successful. J. Veit endeavours to show that the menorrhagia, so frequently met with after abortion, is not necessarily due to any portion of the placenta having been retained, but to alteration in the growth of the mucous membrane dependent upon imperfect involution of the uterus. He enters his protest against the use of the sharp curette for removal of retained portions of membrane, recommended by Böter and others, as being unnecessarily dangerous.—*Edinburgh Med. Journal*, Sept. 1879.

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The Causation of Sterility.

Dr. LEVY, of Munich, gives (*Bair. Ärztl. Intell. Blatt.*, 1879, Nos. 1 and 2) the results of microscopic examinations as to the condition of the spermatozoa at different intervals after coitus, in the case of sixty women who were under treatment for sterility. In fifty-seven out of the sixty, catarrh of the uterus was present. In all these cases only a small number of spermatozoa could be detected within the uterus, and they had all become motionless at the interval of, at the outside, five hours after coitus. In healthy women, on the other hand, the author found that the movements of the spermatozoa within the uterus continued for at least twenty-six hours. Thus the important effect of an altered character of the uterine secretion, in its destructive influence upon the spermatozoa, is demonstrated. The author believes that when the secretion is healthy the spermatozoa can make their way into the uterus in spite of flexions or stenosis. He draws the inference with respect to the use of tents or mechanical dilators for the cure of sterility, that, since these measures are liable to set up uterine catarrh, anti-catarrhal remedies must afterwards be used if the dilatation is to have any effect in promoting conception.—*Obstetrical Journ. of Great Britain*, Oct. 1879.

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Elephantiasis of the Labium Majus.

Dr. AXEL KEY and M. ASPLUND describe in the *Svenska läkaresallskapets förhandlingar* (quoted in *Nordiskt Mediciniskt Archiv*, Band xi) a case in which the latter removed from the right labium majus of a girl aged 21 a tumour weighing about ten *kilogrammes* (twenty-two pounds). It had a pedicle nearly six inches in diameter, and reached below the patient's knee when in the recumbent position. Its growths had been very rapid. The patient had also a sort of elephantiasis of the sole of the right foot and considerable swellings on the left leg and thigh. The tumour, which was twenty inches long, was uniformly long and soft, without any hard portions. On section, it was seen to be of uniform structure throughout, with a pale whitish-gray colour and watery appearance. On pressure, a large quantity of nearly clear very gelatinous fluid escaped. Microscopic examination showed that the tumour was composed of perfectly developed connective tissue, with small lymph-spaces externally and very large ones internally. This was then a pure case of elephantiasis of the female genital organs; and Key considers the enormous swelling as a very rare specimen of the disease in these parts. It is interesting to observe that it was not alone, but that, as has already been stated, the thigh, leg, and foot were also affected.—*Brit. Med. Journ.*, Sept. 27, 1879.

Vaginismus.

M. GALLARD, in the *Annales de Gynecologie* states that he constantly recommends the gradual dilatation of the vagina by tents of progressively increasing size. According to the circumstances of the case he impregnates these tents with different applications. He also believes that these topical applications aid materially in curing vaginismus. For this purpose M. Gallard recommends the use of iodoform made up into an ointment (iodoform, 2 grams, cocoa butter, 2 grams, fresh lard, 15 grams). This preparation may be employed when there is redness or excoriation of the mucous membrane. If there is only pain without any visible change in the mucous membrane, extract of belladonna, 2 grams, fresh lard, 15 grams, may be prescribed. In this, as in the previous case, the tents may be as small as possible. After the employment of the iodoform ointment it is well to replace it after a few days, when the redness and excoriations have disappeared, by the belladonna preparation. In both cases care should be taken to increase daily, by an imperceptible but still advancing gradation, the size of the tent. By this means at no very distant period, a tent is habitually employed which is of such a size as to allow the introduction of the male organ. In effecting this result the action of the narcotic substance and the progressive dilatation have both materially assisted each other.—*Practitioner*, October, 1879, from *Journ. de Med. et Chir.*, May, 1879.

Hysterotomy for Fibrous Tumour of the Uterus.

M. TILLAUX (*Gazette Hebd.* Oct. 17, 1879) in presenting to the Académie de Médécine a patient upon whom he had performed gastrotomy and ablation of the uterus referred to the fact that, some years ago Demarquay had said before this same tribunal that hysterotomy as applied to fibromas was not a justifiable operation, and ought to be condemned. M. Tillaux said the Académie ought not to remain under the impression caused by Demarquay's words. The case which he reported proves that a large proportion can escape certain death by means of hysterotomy, or, as he proposes to call it, hysterectomy.

The conditions in which this operation should be performed, he defined to be—

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1. When the woman's life is threatened by obstinate hemorrhages—these are the most common cases.

2. When the tumour causes intolerable pain, and the patients themselves demand the operation.

3. Finally, when the tumour presses upon a portion of the intestine to the point of producing intestinal occlusion—these are the rarest cases.

M. Tillaux's patient was thirty-six years old. After having spent two months at Lariboisierè, and having gone from hospital to hospital, she returned to Beaujon the fifth of last March to seek an operation. She had a voluminous fibroma, which caused a constant drain, and had reduced her to the last stages of cachexia.

The tumour was rounded, partially movable, and left no doubts in regard to the diagnosis. The operation was performed 18th of April, in an isolated pavilion of the Beaujon Hospital. The incision was made on the median line. The tumour presented some adhesions, due to anterior pelvi-peritonitis, which were easily detached by the hand. The Fallopian tubes were cut, after having been tied with catgut. The tumour was then turned out of the abdominal cavity on to the mons veneris. M. Tillaux transfixed the tumour in its lower part with a needle threaded with iron wire, and thus strangulated it with a double ligature. The uterine and fibrous mass was then separated with the bistoury above the ligature. The pedicle, which was very large, was left at the lower angle of the wound. Lister's antiseptic dressing was employed. There was no accident. The needle was drawn out on the twentieth day, and the cure took place slowly, but without interruption.

In this case M. Tillaux did not judge it necessary to remove the ovaries which he had not found in his way. The tumour was submucous, and weighed about 4½ pounds. It was developed in the uterine walls on the left side.

M. Tillaux remarked that the term hysterotomy as applied to this operation is not correct. We should say hysterectomy, when complete removal of the uterus takes place, just as we say iridectomy when the iris is removed. Hysterotomy would simply mean incision, and not removal of the uterus, and could be applied to fibrous tumours when we merely remove the fibroma, leaving the organ.

M. GUÉRIN asked if the woman has continued to menstruate, and if she has had sexual relations. M. Tillaux replied that menstruation has taken place regularly during the past three months, but he knew nothing in regard to sexual relations.

At the succeeding meeting of the Académie (*ibid.*, Oct. 24, 1879) M. DUPLAY reported two cases in which he had performed hysterotomy and declared himself an earnest advocate of this operation in the treatment of fibromas or cysto-fibromas of the uterus. The first operations performed were, he said, after errors of diagnosis on the part of surgeons who thought they had ovarian tumours to deal with. Kimball appears to be the first surgeon who deliberately undertook in 1853 the removal of the uterus for a fibroma. His example was followed later, and observations on hysterotomy have increased during the past fifteen years. In France, however, this operation has been looked upon with little favour, and has not been performed with much success, except by Messrs. Kœberlé and Péan. The greatest number of operations have been performed elsewhere.

M Duplay collected some statistics of laparotomies performed up to last year. 1. for fibromas. 2. for fibro-cystic tumours.

1. Laparotomies for fibromas—*a*. Removing the fibroma and leaving the uterus. Sub-peritoneal tumours, more or less pedunculated: 17 laparotomies, 5 cures, 12 deaths, or 70.5 per cent. mortality. *b*. Removing the entire uterus: 55 laparotomies, 23 cures, 32 deaths, or 58 per cent. mortality.

2. Laparotomies for cysto-fibromas: 41 laparotomies, 22 cures, 19 deaths, or 46.4 per cent. mortality. These partial statistics would seem to prove that hys-

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terotomy is less serious for cysto-fibromas than for pure fibromas. If the partial statistics are united we find: of 113 laparotomies and hysterotomies, 50 cures, 63 deaths, or 44.2 per cent. cures and 55.7 per cent. deaths.

M. Duplay afterwards gave an account of the two operations of hysterotomy that he performed for uterine fibromas, one of which, in 1876, was at the hospital of Saint-Louis, and was followed by death, and the other on the 15th of last August, was in an insane asylum, and was followed by a cure, although M. Duplay had not thought it necessary to take the precautions taught by the advocates of the antiseptic method. In this last case the tumour was a solid uterine fibroma, and weighed 22 pounds.

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An Aid to the Diagnosis of Large Ovarian Tumours.

Dr. SCHULTZE, of Jena, describes (*Centralblätt für Gynäkologie*, No. 6, 1878) a method of manipulation which he thinks will be of advantage, in addition to those generally described, in the diagnosis of ovarian tumours, and more especially in discovering the nature of their attachment, and in determining the possibility of extirpating them. He first expresses his approval of the manœuvre recommended by Hegar—namely, that the cervix should be seized by a tenaculum and drawn down by an assistant, thus putting the pedicle of the tumour on the stretch, while the bimanual examination is carried out by two fingers of one hand in the rectum and the other hand externally. For the author's special method of exploration the patient is to be placed in the dorsal position on a table, with her hips close to the end, and to be brought under deep anæsthesia. The rectum is then to be explored by two fingers, while an assistant, standing at the other side, grasps the tumour with both hands, and alternately draws it upwards and presses it downwards, causing it to glide, if possible, beneath the abdominal walls. The pedicle or attachment to the uterus is thus alternately put on the stretch, and released to the greatest degree, so that the fingers in the rectum can distinguish it with the greatest ease from any other source of resistance to pressure against the rectal walls. The author considers that the introduction of the half or whole hand into the rectum stretches its walls so much as to render more difficult the appreciation of any resistance felt through them.—*Obstetrical Journal of Great Britain*, Oct. 1879.

Medical Jurisprudence and Toxicology.

Toxic Effects of Tea.

At the late meeting of the American Neurological Association (*Journal of Nervous and Mental Diseases*, Oct. 1879), Dr. W. J. MORTON, of New York, read a paper upon this subject, which, he said, was best studied by examining that class of men, such as tea-tasters, who habitually took tea in large amounts. It was, however, not easy to obtain extensive data concerning those men, for they feared if the facts became known it might injure their business. Five cases, however, had been collected, and those, together with experiments performed by the writer upon himself, formed the basis of the paper.

The bad effects of tea-tasting were known and recognized by the tea-tasters themselves, and few could carry on the business many years without breaking down. One tea-taster estimated that he got about half-a-pound of tea into his system during a day. It has been said that the symptoms from which tea-tasters

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suffered were due to alcohol or dyspepsia, but the facts collected showed the contrary.

The writer then gave the history of the cases referred to, and of the experiments upon himself.

The following is a *résumé:* First, as to the immediate effects of moderate doses, there was in the cases observed: an elevation of pulse, increase of respiration, agreeable exhilaration of mind and body, a feeling of contentment and placidity, an increase of intellectual and physical vigour, with no noticeable reaction.

The immediate effects of an excessive dose were: rapid elevation of pulse, marked increase of respiration to the extent of about one-third, increase of temperature, no period of exhilaration, but immediate and severe headache, dimness of vision, ringing in the ears, dulness and confusion of ideas. Following that was a severe reaction: exhaustion of mind and body, tremulousness and "nervousness," and dread of impending harm, that could not be relieved by taking more tea.

The effects of continued doses were a continuance of the tremulousness, extreme susceptibility to outside impressions, constipation, diminution of urine, and marked influence on the metamorphosis of tissue as shown by the diminution in the amount of urea. Thus, in the week during which the writer was taking toxic doses of tea, the amount of urine fell from f. ℥xl to f. ℥xxxii per day; and in the same time the urea fell from gr. 591 to gr. 422 per day. The sulphates, phosphates, and chlorides were increased.

The results, as regarded the diminution of urea, agreed with previous experiments, but showed the influence of the tea much more strikingly.

From the study of the drug's action, Dr. Morton arrived at the following conclusions:—

1. That with it, as with any other potent drug, there was a proper and an improper use of it.
2. That in moderation it was a mild and pleasant stimulant, followed by no harmful reaction.
3. Its continued and immoderate use led to a very serious group of symptoms, such as headache, vertigo, ringing in the ears, tremulousness, "nervousness," exhaustion of mind and body, with disinclination to mental and physical exertion, increased and irregular action of the heart, and dyspepsia.
4. The mental symptoms were not to be attributed to dyspepsia.
5. It diminished the amount of urine, and retarded the metamorphosis of tissue.
6. Many of the symptoms of immoderate tea-drinking were such as might occur without a suspicion of the real cause.

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Nitrite of Amyl in Chloral Poisoning.

Dr. J. G. S. COGHILL (*Brit. Med. Journ.*, June, 1879, p. 969) was called to see a man, aged 62, who, two hours after taking a large dose (quantity uncertain) of chloral, was gasping, with four respirations a minute, kept up by artificial respiration. The surface was cold, deeply cyanosed, with the pupils contracted to the size of a pin's head. The pulse was 80, full, soft and compressible. Twenty drops of nitrite of amyl were administered by inhalation. Within two minutes warmth had returned, even to the extremities, and the surface had resumed the hue of health. In ten minutes the respirations reached nine per minute, and gradually rose to twelve. The amyl was repeated in a smaller dose, after an interval of two hours. On the following morning, at 9.30, about twelve hours after the chloral was taken, although the patient was generally much improved,

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still there was no return of consciousness, but after two brandy and beef-tea enemata, he became quite sensible and spoke to those around, and swallowed food. At 6.30 P. M. the patient was improved, and continued to do so till 9 P. M., when he started up suddenly from sleep, stared around, threw up his hands, and, with a cry, fell back dead. Dr. Coghill thinks a more copious stimulation, per anum, might have warded off the fatal results due to cardiac syncope.—*London Med. Record*, Oct. 15, 1879.

Hygiene.

The Hygiene of the School Room in its Relation to Sight.

At a late meeting of the Société de Biologie (*Gazette Hebdomadaire*, Oct. 17, 1879) Dr. JAVAL, Director of the Laboratory of Ophthalmology at the Sorbonne, read an interesting paper on this subject and summarized his views in the following conclusions:—

1. It is proved that the causes of short-sightedness are habitually a prolonged application of sight during childhood combined with insufficient light.

2. In our climate illumination by diffused light never attains, even in the open air, to an injurious intensity.

3. The belief that bilateral light is injurious to the preservation of sight does not rest on any theoretical basis.

4. According to most recent statistics there are schools in which the light being bilateral, myopia is comparatively rare, and there exist others in which unilateral light is had under most favourable conditions, nevertheless myopia is as frequent as in the worst arranged schools. Experience is certainly not in favour of unilateral light.

5. Sufficient light by means of windows arranged on one side can only be obtained if the width of the room does not exceed the height of the lintels of the windows above the floor.

6. Light from behind, if it comes from above, may be usefully combined with lateral light; the light from a glazed roof is excellent.

7. Bilateral light should be preferred on all accounts. In this system, the width of the schoolroom being for the same height of windows twice as great as in the case of unilateral light, the intensity of the light in the middle of the room, which is the least benefited portion, is double that obtained by the same distance from windows where unilateral light is used. However, the width of the schoolroom must never exceed double the height of the windows.

8. Great importance must be attached to placing the school towards the east, and the axis should be directed from north-northeast, to south-southwest; a deviation of more than 40 degrees from the direction north-south should never be allowed except in exceptional climatic conditions.

9. The master should face the south.

10. Finally it is absolutely indispensable to reserve on every side of the schoolroom a strip of inalienable ground, of which the width should be double the height of the loftiest buildings that could be erected; allowing for the progress of civilization which has multiplied high storied buildings to an extent hitherto unknown in the country. *This last condition is the most important of all.*

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MEDICAL NEWS.

Retrospective and Prospective.

Thirty-seven years ago the "Medical News and Library" was originated for the purpose of conveying to the readers of the "American Journal of the Medical Sciences" a class of information for which the development of medicine seemed to call, but which did not come within the plan of the Quarterly. As the amount of this material was not as yet large, one-half of the "News" was termed the "Library Department," and was devoted to the publication of books so arranged that the sheets could be detached and bound separately by the subscriber. It is a satisfaction in looking back over this long period to reflect that through all public vicissitudes of peace and war, of prosperity and adversity, the "News" never once failed to make promptly its monthly visit, and that we have reason to believe it has been as unfailingly welcomed by its readers.

What seemed in 1843 an ample provision for the wants of the news-gatherer and news-consumer, finally, however, in the unparalleled development of medical science, proved inadequate, and in 1867 an effort was made to supply the deficiency by the republication of Ranking's "Half-Yearly Abstract" in conjunction with the "Journal" and "News." This was highly successful until the discontinuance of "Ranking" in England, in January, 1874, when its place was taken by a monthly "Supplement" to the "News," which in January, 1875, became the "Monthly Abstract."

The increasing activity of later years has rendered the slow process of supplying books at the rate of sixteen pages per month less satisfactory than of old, while it has heightened the difficulty of selecting works of interest and value to subscribers. Moreover, the ever extending attention paid to Clinical Medicine, which led, two years ago, to the introduction of a series of original American Clinical Lectures in the "News," seems to call for an enlargement in the Clinical Department of the periodical. It has, therefore, been determined to merge together the "News" and "Abstract," abandoning the Library Department, paying more attention to clinics, maintaining the Monthly Abstract as an epitome of the progress of medicine thoroughly up to the wants of the time, while giving in the News Department such items of intelligence, domestic and foreign, as shall keep the reader amply informed as to all the medical movements of the day. To render this more attractive, correspondence is invited from all quarters.

The "Journal" and the "News and Abstract," by supplementing each other, will, as a whole, form a complete record of the advance of medical knowledge in all parts of the world, and it will be seen by reference to the publisher's prospectus how easily they are within the reach of the practitioner. That they shall be indispensable to every member of the

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profession will be the ambition of all concerned, and with such a record to look back upon in the more than half-century of the "JOURNAL" and the thirty-seven years of the "NEWS," it is felt that no promises for the future are necessary, except to say that the traditions of the past will be maintained and adapted to meet the ever-growing demands of scientific and professional progress.

In our next number we shall have the pleasure of laying before our readers a valuable and suggestive Clinical Lecture by Dr. S. Weir Mitchell on Hysterical Paralysis and its Treatment.

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Treatment of Infected Localities at the end of the Yellow Fever Epidemic.

The *National Board of Health Bulletin* (Nov. 1, 1879) publishes the following memorandum on this subject, prepared by Drs. S. M. BEMISS and R. W. MITCHELL, of the National Board:—

1. A fall of temperature to the freezing point renders it safe for persons to visit places which have been dangerously infected with yellow fever; but it is to be remembered that cold cannot disinfect places or things in any way protected from its action.

2. Therefore, persons who have been absent from places infected with yellow fever during the past summer should be warned of the danger of occupying houses before they have been thoroughly cleansed, ventilated, fumigated, and chilled. The doors and windows should be opened, and all parts of the house exposed when the thermometer indicates the lowest degree of temperature; in other words, between sundown and sunrise. Fires should only be lighted a few hours before occupancy.

3. The measures of cleansing, disinfection, exposure to cold and air should include, as far as possible, closets, presses, cellars, shut places of every description, and boxes or trunks.

4. Privies, dry-wells, and cisterns should be emptied and cleansed.

5. All bedding, clothing, textile fabrics of all descriptions, or other material capable of shielding the infection from cold or from the air, should be disinfected by heat, either moist or dry, or by exposure to the atmosphere at low temperature.

6. These measures should be begun as long as possible before the return of absentees or visits by unprotected persons.

7. Persons returning to places which have been dangerously infected should exercise care in purchasing bedding or ready-made clothing without being assured that it has been properly disinfected.

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Philadelphia Academy of Surgery.

On the 21st of April last a number of the prominent surgeons of this city met at the house of Prof. S. D. Gross to consider the propriety of founding a surgical society. The meeting was organized by the appointment of Dr. A. Hewson as chairman, and Dr. J. Ewing Mears as secretary. At a subsequent meeting it was determined to name the society the Philadelphia Academy of Surgery, and a constitution and by-laws were adopted. The first annual election of officers will be held in January, until which time the temporary organization was continued.

By the constitution the resident fellowship is limited to thirty; the honorary American to fifteen, and honorary foreign to ten. The meetings of the Academy will be held on the first Monday of every month. The first stated meeting was held in October, and valuable papers were read by Drs. S. D. Gross, S. W. Gross, and T. G. Morton, which elicited interesting discussions.

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Prize Essay of the New York County Medical Society.

The Committee on Prize Essays, consisting of Drs. Fordyce Barker, Ellsworth Eliot, and Austin Flint, recommended at a recent meeting of the New York County Medical Society that the prize be awarded to the essay "On Affections of the Ear arising from Diseases of the Teeth," which upon opening the accompanying sealed envelope was found to have been written by Dr. Samuel Sexton.

The Committee reported that "This essay seems worthy of this award, from its careful study and appreciation of the physiological relations of the organs discussed, its original suggestions, its important clinical facts, which seem to have been intelligently observed, and honestly reported, its simplicity, lucidity, and correctness in style, and its value as a contribution to practical medicine in an important class of affections, which, as bearing any relations as cause and effect, has hitherto received but slight attention from medical writers.

"If, now that the attention of the profession has been called to the association and supposed causal relations of the affections discussed in the essay, the conclusions of the author should be confirmed by the clinical studies of subsequent observers, the Society may well be congratulated on being the medium which has brought out such good work."

We are happy to state that this essay will be found in full in the January number of the *American Journal of the Medical Sciences.*

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Pseudo-hypertrophic Paralysis.

A case of this rare disease was exhibited by M. DALLY at the Paris Therapeutical Society on the 8th inst. The symptoms, which coincide closely with the description given by Duchenne, were: muscular weakness beginning in the inferior extremities and the lumbo-spinal muscles, extending progressively, and finally affecting the upper extremities also; progressive increase in volume of most of the paresic muscles; hyperplasia of the interstitial connective tissue of the affected muscles, and the abundant production either of fibrous or of adipose tissue as the malady increased. According to M. Dally, only thirteen observations of this nature are on record.—*The Lancet*, Oct. 25, 1879.

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The Physical Cause of Intermittent Fever.

The July number of the *Zeitschrift*, edited by Professor Klebs, contains some particulars of an investigation into the physical cause or poison to which marsh or intermittent fever is due. The inquiry was conducted by Professor Klebs of Prague, in conjunction with Signor Tommasi, Professor of Pathological Anatomy at Rome. The two investigators spent several weeks during the spring season in the Agro Romano, which is notorious for the prevalence of this particular kind of fever. They examined minutely the lower strata of the atmosphere of the district in question, as well as its soil and stagnant waters, and in the two former they discovered a microscopic fungus, consisting of numerous movable shining spores of a longish oval shape. This fungus was found to be artificially generated in various kinds of soil. The fluid matter obtained was filtrated and repeatedly washed, and the residuum left after filtration was introduced under the skin of healthy dogs. The animals experimented on all had the fever with the regular typical course. After explaining minutely the results of their various investigations and experiments, these gentlemen are of opinion that they have discovered the real cause of the disease in question. As the fungus grows into the shape of small rods, Tommasi and Klebs have given it the name of *Bacillus malariæ.*—*Med. Times and Gazette*, Oct. 18, 1879.

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Spontaneous Gangrene in a New-born Infant.

Dr. BIDDER related at the St. Petersburg Medical Society (*St. Petersb. Med. Woch.*, Aug. 30) a remarkable case, in which the left foot of the fœtus presented for twelve hours, owing to the weakness of the pains, in a birth otherwise quite normal. As soon as they became stronger, delivery was easily accomplished. The foot and leg were, however, observed to be blue and œdematous, and in a few days complete gangrene was developed, with an incomplete line of demarcation above the malleoli. Superficial gangrene also affected the ends of some of the toes of the other foot. Amputation of the leg was performed on the fourteenth day. Primary union followed, and the child recovered. The cause of the gangrene was quite obscure, for no pressure of an injurious extent had been exerted by the uterus on the limb. Neither Dr. Mayerhofer, who had had under his notice 100,000 births at Vienna, nor Dr. Rauch, who perhaps has seen as many cases, ever met with a similar occurrence.—*Med. Times and Gazette*, Oct. 25, 1879.

Fatal Asphyxia occurring at Remote Periods after Anæsthesia.

In the *Gazette des Hopitaux*, Nos. 80 and 103, an account is given of a case which occurred in Prof. Richet's practice, of a patient, who, having inhaled chloroform during amputation of the breast without any immediate ill effects, was seized on the second day after the operation with bronchitis, with suffocating breathing, which proved fatal. Four similar cases occurred in M. Richet's practice which pursued the same course, one of the features in common being their occurrence in obese persons.—*Med. Times and Gazette*, Oct. 25, 1879.

Operations of the National Board of Health.

The principal steps taken by this Board, since its organization, to promote knowledge of sanitary matters are as follows, viz.:—

a. The appointment of a commission to study yellow fever in the island of Cuba, consisting of Drs. S. E. Chaillé and Col. T. S. Hardee, C. E., of New Orleans, Dr. John Guiteras, of Phila., and Surgeon G. M. Sternberg, U. S. A.

b. The collecting and collating the sanitary laws of the several States. This work has been going on under the direction of a standing committee of the Board, of which Dr. Henry I. Bowditch is chairman.

c. An investigation as to the best method of determining the amount and character of organic matter in the air, by Prof. Ira Remsen, of the Johns Hopkins University of Baltimore.

d. An investigation as to the effects of disinfectants—and more especially of those which may be used in disinfecting an inclosed space, such as a ship or house—upon the causes of the infective diseases. At the request of the Board this has been undertaken under the general direction of the Secretary of the Massachusetts Board of Health, Dr. C. F. Folsom, by Dr. W. S. Bigelow, of Boston, assisted by Dr. H. P. Bowditch, Professor of Physiology, and Dr. E. S. Wood, Professor of Chemistry, of Harvard University.

e. An investigation as to the composition and merits of the various patent disinfectants, which has been made at the request of the Board by Prof. C. F. Chandler, of Columbia College.

f. An investigation as to the prevalence of adulterations in food or drugs in the United States, under the charge of a standing committee, of which Dr. Hosmer A. Johnson, of Chicago, is chairman, and reports are being prepared by Dr. R. C. Kedzie, President State Board of Health of Michigan, and Professor Diehl, of Louisville, Ky.

g. A preliminary inquiry as to the diseases of food-producing animals in the

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United States, under the charge of a standing committee, of which Dr. J. L. Cabell is chairman. A report is being prepared by Prof. James Law, of Cornell University, New York.

h. An investigation into the character of the water supply of a few of the smaller towns in the Southwest in which yellow fever prevailed last year, by Dr. Charles Smart, U. S. A.

i. An investigation as to the flow of sewers, in relation to their sizes and gradients, in some of our principal cities, under the direction of Col. George E. Waring, of Newport, R. I.

k. A sanitary survey of the eastern coast of New Jersey bordering on New York Harbor, under the direction of the State Board of Health of New Jersey.

l. The collection of the opinions of the principal sanitary organizations and sanitarians of the United States as to the proper form of a national public health organization, under the direction of the executive committee of the Board, and the results will be laid before the Committee of the National Academy of Science, which has been appointed to consult with the Board on these questions.

m. An investigation as to the hygiene of the mercantile marine, and an inquiry as to the legislation or other measures which may be desirable or expedient to promote the sanitary condition of our merchant marine, by Surgeon P. H. Bailhache, of the Marine Hospital Service.

All the above-mentioned investigations are in progress, and will, it is believed, yield valuable results.—*National Board of Health Bulletin*, Oct. 25, 1879.

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State Medical Society Meetings.—The annual meeting of the Iowa State Medical Society will be held at Des Moines on Wednesday, January 28th, and of the New York State Medical Society at Albany on Tuesday, Feb. 3d, 1880.

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German Railway Employés and Colour-blindness.—The result of the investigation of the German Railway Department into colour-blindness is that on the State lines one *employé* in 125 is affected by it, and on companies' lines one in 250, but these and local discrepancies in the return imply that the test applied was not uniform.—*Med. Times and Gazette*, Oct. 18, 1879.

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Literary Notes.

The Messrs. Churchill have just published a treatise "On Glaucoma," by Mr. Priestley Smith, of Birmingham; to which the Jacksonian Prize for 1878 was awarded, in April, by the Council of the Royal College of Surgeons. It forms an octavo volume of 281 pages, and is beautifully illustrated by fourteen lithographic plates, eight of which are coloured, and are from original drawings. The same house has also issued Dr. Samuel Fenwick's "Outlines of Medical Treatment" (to be reprinted by Lindsay & Blakiston), and announces Nettleship's "Student's Guide to Diseases of the Eye" (to be republished by H. C. Lea), and "Clinical Lectures on Diseases of Women," by Matthews Duncan.

Smith, Elder & Co. have published a "Manual on Skin Diseases," by Malcholm Morris, Lecturer on Dermatology in the St. Mary's Medical School, London (reprinted by H. C. Lea), and a translation of Wecker's "Ocular Therapeutics."

H. K. Lewis has in press a monograph "On the Bile, Jaundice, and Bilious Diseases," with illustrations in chromo-lithography, by Dr. Wickham Legg, and has just published a translation of Prof. Virchow's brochure on "Infection-Diseases in the Army, chiefly Wound, Fever, Typhoid, Dysentery, and Diphtheria."

A translation from the third edition of Dr. Paul Guttman's "Handbook of Physical Diagnosis," comprising the throat, thorax, and abdomen, completes the New Sydenham Society's list for 1879, and will be reproduced in this country by Messrs. Wm. Wood & Co.

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Dr. J. L. W. Thudichum, who is favourably known by his treatise on the "Pathology of the Urine," has just issued through the Longmans, the first volume of "Annals of Chemical Medicine," which embraces the application of chemistry to physiology, pathology, therapeutics, pharmacy, toxicology, and hygiene.

Messrs. Urban and Schwarzenberg, of Vienna, have issued the first fasciculus of "Real-Encyclopädie der Gesammten Heilkunde," under the editorship of Dr. Albert Eulenberg, assisted by upwards of ninety contributors, most of whom are well known by their work on this side of the Atlantic. This medico-chirurgical encyclopædia is to be completed in about ten volumes, each consisting of ten parts. The first fasciculus contains 80 pages, and extends from Aa to Ac; 32 of its pages are occupied by an excellent article, with illustrations, on typhoid fever, by W. Zuelzer, of Berlin.

Messrs. Adam and Charles Black have in press "Contributions to Obstetrics and Gynæcology," by Prof. Alex. R. Simpson of the University of Edinburgh.

Mr. H. C. Lea has just published a fourth edition of Bumstead's classical work on "Venereal Diseases." The author, with the assistance of Dr. R. W. Taylor, of New York, has revised and in great part rewritten the book, so that it may be fairly regarded as a new work rather than a new edition. It is estimated to contain one-half more reading matter than its predecessor. The same house have also issued the first volume of Reynolds's "System of Medicine," with notes and additions by Dr. Henry Hartshorne, and the remaining two volumes are promised in rapid succession. A third edition of Playfair's Midwifery, revised by the author especially for this country, and a new edition of Bowman's Medical Chemistry, which has long been out of print, remodelled and rewritten by Dr. Greene, Demonstrator of Chemistry in the University of Pennsylvania, are promised shortly. The long-expected and elaborate system of Anatomy, by Prof. Harrison Allen, of the University of Pennsylvania, we learn is now so far advanced that its appearance may be soon expected.

D. Appleton & Co. have recently published Dr. B. W. Richardson's "Ministry of Health," and have in press a "Practice of Medicine," by Dr. Roberts Bartholow, and a new and enlarged edition of Dr. Van Buren's monograph on "Diseases of the Rectum."

G. P. Putnam's Sons announce "The Essentials of Anatomy," by Drs. William Darling and A. L. Ranney.

The editorial staff of the *American Journal of Otology* will be increased by the addition of Prof. A. Graham Bell, the distinguished inventor of the Bell telephone.

J. P. Morton & Co., of Louisville, have published in handsome form Prof. Gross's eloquent Memorial Oration at the Dedication of the McDowell Monument, last May. It forms an octavo volume of 77 pages, and has for its frontispiece a steel engraving of the "Father of Ovariotomy."

Obituary Record.—At Paris, in the latter part of October, M. Alphonse Devergie, aged 81 years.

M. Devergie was born in 1798, received his diploma in 1823, and became an Agrégé in 1825. In a few years he was appointed to the St. Louis Hospital, where he acquired his great reputation as a dermatologist. In 1874 he was elected President of the Academy of Medicine. For many years he enjoyed a great reputation as a medical expert, in which capacity he was a brilliant rival of Orfila and Tardieu. His best known works are his "Traité de Médecine Légale," which has passed through three editions, and his "Traité des Maladies de la Peau," which was originally published in 1854.

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THE

MEDICAL NEWS AND ABSTRACT.

VOL. XXXVIII. No. 2. FEBRUARY, 1880. WHOLE No. 446.

(For List of Contents see pp. 127-8.)

CLINICS.

Clinical Lectures.

THE TRUE AND FALSE PALSIES OF HYSTERIA.

BY S. WEIR MITCHELL, M.D., OF PHILADELPHIA,
MEMBER OF THE NATIONAL ACADEMY OF SCIENCES.

GENTLEMEN: The case to which I drew your attention at my last clinic is here again, a girl, rather wanting in the signs of sexual ripeness, although sixteen years old. You will recall the fact that she lost the use of the right arm because of having been alarmed. The scare brought on what every woman knows as an attack of hysterics—our ancestors called it the vapours. The girl cried and laughed by turns, and then had a slight fit, on coming out of which she could no longer lift her right arm, or rather she could lift it but a few inches. On finding this to be the case, she grew much concerned, and by and by could not lift it at all, the idea that it could not be raised helping, as is apt to be the case, to make the trouble worse. There seems to have been no deceit, but perhaps the first feebleness may have been slight, and the power of her belief in her want of force—great—and this is rather the more likely since, as you saw, I raised the arm and said, "Now you can keep it up," which she did. You see that it seems again palsied. A new order restores it, and she lifts it without much effort, having won a belief in my being able to aid her. I send her away with a lightly uttered word or two as to the use of the hot iron, if she again loses power. The warning may answer or may not. We had a case very like this two years ago. I believe it got well.

We see here among the ill-fed, needy, and worried, a good many cases of hysterical loss of power, and I meet a yet larger number among women of the upper classes, where the disease is caused by unhappy love affairs, losses of money, and the daily fret and wearisomeness of lives, which passing out of maidenhood, lack those distinct purposes and aims which, in the lives of men, are like the steadying influence of the fly-wheel in an engine.

It is my present wish to speak of some of the many kinds of hysterical

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paralysis, and to state, so far as I can, the means which, in my own practice, have been used for the relief of these baffling and annoying cases.

The group of instances of lessened power which I shall here discuss will include the usual forms of hysteric paraplegia and hemiplegia, and that which I shall call double hemiplegia. I shall not attempt to cover the whole range of hystero-palsies, but seek chiefly so to define a certain number as to allow me to speak of their treatment. I shall also describe four forms of seeming loss of power, only one of which is hysteric in nature, and not found elsewhere with the same features. I allude to hysterical motor ataxia.

The others are palsy from the rule of an idea, general paresis, and consciously mimicked palsy.

All three of these may be and are seen outside of hysteria, but they find in it a fertile soil, and are none the easier to treat when they are masking in this disguise.

One of the chief troubles in clearly knowing and in dealing with all of these forms of disease is due to the fact that in most cases they exist in union. The case of palsy may be partly real, partly pure weakness, which can be overcome, partly loss of power from want of belief in being able to move, or conscious mimicry may be added to palsy or to the forbidding influence of a regnant idea, or to the true hysteric palsy may be joined ataxy of motion. For such vexing marriages of disorders, and for their offspring of doubt, we must be ready and watchful. They make hysteric lack of power hard to define, hard to treat, full of surprises, and unfailing in interest and variety. Take this for an instance: You have a case of extreme hysteric paresis to treat. As a rule it is readily cured. You predict a clear and happy future. As time wears on the mere weakness is gone, the limbs are plump again, the cheek red, and then you find, as I have found, that hidden in the mere weakness there is a distinct amount of motor palsy—a mild, one-sided, loss of power—a true hysteric palsy, and not at all easy to cure. I shall pick for you, out of my note-books, cases of each of the forms of disease I have just spoken of, and shall try to make plain to you how I treat them. There were once no cases so much dreaded by me. There are now none to which I go with so much pleasure. I am sure that I treat them to-day with a success I could not once have gained, and I think that what success I have had has been due to more exact ideas as to what is needed, and that unflinching purpose and action which grow out of distinct views.

The first case I shall state ended in death, and is for that reason the more strange because death in hysteria is rare.

Mrs. C., æt. 36, a strong woman, and in all ways well, lost by sudden death a child and her husband. Thus having cast on her the care of a large estate, loaded with many burdens, she began to show excess of anxiety as to her affairs, and from being sweet of temper became abrupt and full of unreasonable doubt as to her advisers. The worry brought with it speedy loss of blood globules, and as she was a woman who flowed very fully each month, all these causes together began to tell. This is the kind of thing we see much of in medicine. The books say this, that, or the other causes Hysteria. In practice it is usual to find two or three causes—acting to assist one another. This woman was quite ready for an outbreak of some form of nerve trouble, when of a sudden she met the final blow in the form of a telegram. The news it bore was neither good nor ill, but by evil luck

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the writing looked like that of her dead husband, and she began to laugh with that strange want of appropriateness in emotional expression so common in the nervous. Awaking next day her legs seemed heavy, which caused her great alarm. At once, as she told me, the fear of palsy arose in her mind, and haunted her the more as, day by day, the feebleness grew worse. She was in Germany when taken ill, and seems to have been looked upon as suffering from an organic malady, for she was treated with nitrate of silver and the hot iron. Then as she failed to get relief anywhere, she was sent from one spa to another with a skill which we are yet far from being able to reach, and at last came home to America, where I saw her often and until the close of her life.

This was what I found: A woman of 35, height 5 feet 2, weight 170, flabby, and thin blooded; all the organs were normal. On the left side of the vagina was felt a tumour about the size of a walnut. It was very tender, and firm pressure on it gave rise to nausea and distress down the left leg. I had no doubt that this growth was a displaced ovary, but, despite this change of place, the left iliac fossa was tender to touch, with what we call ovarian tenderness. Was it ovarian? Hardly, in this case. I have been told by Dr. Goodell that he has seen this same sensitiveness in other cases where the ovary had been displaced, and probably too much has been and is made of this symptom. The tenderness in Mrs. C.'s case was strange because it was, so to speak, an island, and all about it to the waist and down to the feet the body was without sense of touch or pain, or of heat and cold. In tracing this defect upwards it was found to cover the left breast, but this was so to-day, and then to-morrow it was less, the upper limit ranging from the navel to the left armpit.

Motor power was failing when I first saw her, but this had been the case before, and had been followed by a change for the better.

The plan pursued in treating the case was one to which I groped my way a few years ago. My patient was very thin blooded, and yet very fat. Such cases for some reason not clear to me are more hard to redden than are those of thin people in like states of blood. But if you can safely cause these persons to lose flesh, as they are helped to remake it, you may sometimes redden them with ease, and to double the number of blood globules is sometimes to lift a woman above the low level of health, which is one, at least, of the factors of hysteria.

Mrs. C. was, when I saw her, sitting up most of the day, and sewing, writing, and the like, when not too nervous. I put her in bed, and employing as a diet milk alone, with a little rice water or barley water, I began to lessen the amount given, until, using less than a quart a day, her weight fell off at the rate of about a quarter to half a pound a day. When she showed signs of weakness I added beef soup to the diet for a day or two, and thus in one month brought down her weight some twenty-four pounds. This could not with safety be so quickly done unless the patient were kept inert and supine. Then the milk was by degrees increased. Raw beef and vegetables were added, malt extract was used before meals, a little red wine or champagne was allowed, and iron was given freely, the feeding being frequent. When I made the increase in diet I began to arouse sensation by the use of the wire brush, and with induction currents.

Now in common palsies, or in those from nerve wounds, feeling is apt to come back first, motion last; but in hysteric palsies, as I think, the gain in action and motion may go on, and even reach a useful amount

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while yet the lack of feeling rests as it was when the treatment began. Just this change took place in Mrs. C.: She grew brighter, more happy, gained in colour and flesh, and began to move her legs. In a month after she reached full diet she could walk with some trouble, and about this time the sense of touch showed signs of betterment, but the power to feel pain was unchanged, and, in fact, was never complete in the left leg.

Next began a plan of steady, urgent calls upon her for increase of the use of her limbs, so that before long she was able to walk out of doors. At this point I fear there was a mistake made in the treatment. Thinking the battle won I pushed her too hard, and one day after walking much further than usual she felt an excess of fatigue. Returning home she gave out of a sudden, and the morning after was again unable to stir either leg. I may pause here to repeat as to this matter a warning I have often given. It is to urge on you the utmost care as to allowing a hysterical patient on the way to health—I mean, of course, one who has lost power—to do more each day than fulfil the ordered task of that day. Most cases of hystero-palsies are easily tired, and it is almost sure to be the case that they cannot make a long effort without showing the effect in some way; moreover the mental results of extreme tire are to be feared, because any positive, real sensation is apt to become the peg, so to speak, on which the patient may hang the complement of a larger and less real sensation.

More slowly this time Mrs. C. got back some control over her movements, but at a certain point the gain ceased, and we made no further progress, nor did this surprise me. Hysterical paraplegia is more hard to cure than any other hysterical trouble except, perhaps, multiple contractures, and I felt that I had done well to win what I had won.

About six months later this lady died after a brief illness, which seemed to me more like a sudden and complete palsy of the pneumogastric nerves than anything else. No examination post mortem was allowed. I have known three deaths in hysteria; all were abrupt, and two were due to acute congestion of the kidneys.

Of that more common type, the palsies of one side of the body, you have seen a number. They are more frequent than paraplegias; less hard to cure, but quite lasting enough to make you cautious as to what you predict about the future. Where they occur in the feeble and thin-blooded, who have by degrees grown emotional, tearful, and weak of will, you may have more hope of helping them than if they are met with in robust people of non-emotional type. Such there are—people in whom the usual emotional elements which go to build up this temper of mind are wanting, or are small in amount. The former offer through the relief of their nutritive defects chances of obvious nature; the latter are apt to be bright or even able women, who enlist their mental forces in behalf of their symptoms, and treat the hated charge of being hysterical with utter scorn.[1]

I shall not take then the most common cases of hysteric hemiplegia, but one of the forms not well described as yet, and which I shall, in advance, venture to call double hemiplegia. This, as we shall see, is not merely another name for paraplegia.

Miss B., a sturdy, handsome girl, æt. 16 years, had a series of ills one on another from time to time. The first sign of trouble was twitches of

[1] I ought, perhaps, to add that these women are usually mobile and excitable by nature, prone to laughter more than tears, so that it is hardly exact to say they are not emotional. Their form of too ready emotional disturbance lies merely in an unusual direction for the victims of hysteria.

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the eyelids, and tears on reading; then there was a pause of two years. The next disturbance was a noisy and obstinate hiccup, during which the iliac fossæ became tender, and a single hypodermic use of morphia was followed by convulsions. Next came hysteric loss of desire for food, nausea, pains in the left arm and leg, and spasm of the vessels in the left leg, so that it became white and cold. Up to this time she still walked out; but in the summer of 1878 the use of galvanism is said to have been followed by sick stomach and loss of power to stand. In the autumn she got rid of immense masses of hard feces, when all the symptoms improved for a time. The next winter was passed in bed, vomiting a good deal; eating little; the bowels very hard to move; the urine passed every hour. About this time also she began to shun light, and came at last to living, with covered eyes, in a darkened room. When I saw this young lady I was struck with the thorough type of the emotional hysteric person she showed; nor from the usual weak will to the usual love of sympathy was there any tint wanting to the picture. I watched her for a few days without ordering treatment until I learned all I could of herself, her history, her home-life, her pursuits, her ambitions, and her mental powers. Then a talk with a watchful nurse helped me further, and I saw clearly that I had to do not with a clever woman who may be won over, and who is flattered by the tribute paid to her mind when you insist that to cure her she must be made to understand and agree with you, but with a child who to be made well had to be calmly and firmly ruled, and held day by day to rigid account. She was at once shut up, with a good nurse, and kept at rest in bed, not being allowed to use her hands even to feed herself. As she had been able to knit and sew, and be read to, and to receive many visits, the sense of the irksomeness of the treatment soon made her eager to do anything I wished. Then began a system of bribes. She was told that if she could learn to bear the light she would be able to be read to, but that the nurse could not be allowed to strain her eyes. It would have been easy to open the windows and say you must bear the light, but if she herself gained this point of vantage, it would have the great value of being a self-conquest. In a few days I found the sunlight bright in her room. Then she was asked to overcome the habit of regurgitating her food. One or two scoldings, some show of disgust, and the promise that she should soon feed herself if she obeyed my wishes, helped us through with this. There were relapses; but as I found she hated milk I felt forced to put her back on the milk diet we began with whenever she threw up a meal, so that before long we heard no more of the vomiting; meanwhile the steady feeding and the use of massage, and local muscle treatment by electricity, began to show in a gain of flesh and colour and firmness of muscle. She was now very weary of this unending quiet, and the time for education of the motor powers seemed to have come. Her loss of motion on the left side was very marked, and there was complete want of power to feel pain or to tell heat from cold; yet I could not make out any loss of vision or of colour-sense. The touch was not perfect, but she knew fairly well where she was touched, although she could not be tickled.

As regards the pain sense there was one very curious point, and I have seen this before. As the needle came within an inch or two of the middle line of the body it was felt, and the better felt the nearer it came to this line; nor do I recall having met with this fact in any case of palsy from organic cause. The right side of the body was palsied in a less degree, and only as to motion the leg far more than the arm. The same was the

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case on the left side as regards all the forms in which the functions were deficient. Now as this case grew better the right side became well first, leaving the left hemiplegia as before, so that I have reason to speak of the whole loss as being due to a double hemiplegia. In other cases I have seen a general loss of sense and motion, and observed entire relief on the right side, leaving only a hemiplegia of the left.

My patient had some wasting of the left leg, and less good electro-muscular reaction on the left, but no pain on that side from any form of current. The tendon reflex below the knee-pan was good on the right; about one-half of this on the left; and what was new to me the jerk was sometimes due to the extensor, and sometimes due to the flexors, the extensors in the second case not seeming to move at all. Here was another of the oddities of this most strange disorder.

As is usual she moved her limbs best while in bed, and showed, when I came to let her sit up, or stand, the loss of balancing power, which is seen in all grave hysteric palsies, and is, indeed, almost a sure sign of the parentage of the disease.

I have often asked you to note another point which this case showed very well. You ask the patient to raise the leg. It is lifted an inch; you insist on effort, it is lifted higher; or if a great effort be made the motion consists of a series of lifts and pauses.

The reliefs of distinct hystero-palsies are said to be often abrupt. Under emotion or return of the menstrual flow, or on an order from some one, the patient gets well. I must say that in hystero-hemiplegia and paraplegia, with loss of feeling, I have not been so happy as to see these delightful cures. In hysteria with mere paresis, in the palsies from belief, or from a ruling idea, I have seen such results many times. Neither do I believe that all hysteria *is after a time* within control of the sick person; nor that she can in all instances run away in case of a fire, according to a popular medical belief. In fact I have now in my care a lady who was so tested by chance, and quite utterly failed to do more than fall down in her effort to escape from a house on fire.

I have felt the need to say this, even if too briefly, because I must add that the cures are to be made by a slow, steady, hopeful training of the will powers through every-day effort, which needs some caution not to err in the way of excess. A little nervousness is a bad sign, and it is well each day to attempt a very little—no matter how little if only we succeed, and can make the patient see it. I shall in another case be more precise as to the means used. Enough to say of this case that it went on slowly gaining ground, and was under my care a year before the patient could walk well enough on crutches to go home with a cheerful future. It was not a brilliant case, and it taxed nurse and doctor to the uttermost—a case urged and scolded, and teased and bribed, and decoyed along the road to health; but this is what it means to treat hysteria. There is no short cut; no royal road.

Let us take another case. It was as much like the last as it could well be except that the greater loss was on the left side. But there was one matter in which it differed, and this changed my whole manner of dealing with the malady. My new patient was a clear-headed girl of 18 years, once having had a vigorous will. She was described to me as unselfish, thoughtful, and intelligent, and as a woman only brought down to a state of hysteria by long illness and the want of helpful advice at the right moment. She was emotional and ashamed of her tears, and honestly hated the

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whole matter of sickness. You will see such hysterical women. You will see others whose minds are like the back of a piece of needlework with a baffling absence of pattern, indistinct mentally, and with a low, whining, bleating voice that is by itself a tell-tale of the kind of the willless ataxia which seems to cripple the mind no less than the body. These are the hard cases to relieve. But to return to my more favourable case. I tried to make her see how much the defects of body have to do with those of mind, and therefore the need to begin by building up the body anew. When, after a time, the limbs began to round, and colour to come back to her pallid cheek, I set her to thinking how far the early troubles might have been within her control. I assured her that, although she could not now overcome at once the results due to habitual failure of self-control, repeated efforts would surely end in success. She was told that it was like the case of a bad temper, easy to hold in check at first, but if long unheld at last uncontrollable. It is not hard to open this point of view to a clever woman. You urge this idea from day to day; you ask her to try your way. She says I have done so, and then you point out that with ill health success was out of the question, while with rising health it might be easy. At last you get her to promise to fight every desire to cry, or twitch, or grow excited.

Above all you teach her the priceless lesson for a woman of the value of moods, of the ease with which she can get herself into a state of dangerous tension, of the necessity of learning not how to bear a thing, but how to approach the idea of bearing it in a state of calm. It is a long sermon, but I can only give these few pregnant texts. It is always apt to win with a woman of intelligence, and the fools are to be dealt with by other moral drugs than these, or the honest pill must be gilded with timely flattery or such better motives as may help it to find the woman's conscience, if that is to be stirred at all.

By and by, as one symptom after another gave way before her efforts, she became more and more sure that I must be right as to all; and I have seen few cases gain ground with equal speed. Nevertheless a whole year was needed to make her well able to take up afresh her full round of social and household duties. In fact even with the best of self-help from the patient the cure of any one of these cases is a long and arduous course of education.

Before leaving the subject of hysteric palsies I would say a few words as to the electric reactions. In most cases, and early in nearly all the muscle reactions are normal; but after a time, and in most old cases, these are less good than in health; nor do limbs long palsied fail to shrink somewhat, while marked wasting is rare. When there is loss of motion and of feeling Duchenne's axiom is correct; that is, we have then normal electric reaction of muscles and absence of all sensation of pain from the most severe currents. In some early cases I have seen a state of things not elsewhere spoken of. I saw it last week in a case of horrible chronic rhythmic spasms of the arms, with palsy of sense and motion in the legs. Dr. Yarrow, the attending physician, studied with me the electric state, which was curious. When with slow or rapid breaking of circuit (induced currents) we tested the leg muscles, the poles, even with currents unbearable by us, caused no motion until they had been steadily applied for from two to three minutes over any one muscle; but the reaction of nerve and muscle, one pole on each, was somewhat more rapid, although still very slow.

(*Conclusion in next Number.*)

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ILLUSTRATIONS OF ANTISEPTIC SURGERY.

A Clinical Lecture delivered at King's College Hospital.

By JOSEPH LISTER, F.R.S.,
Professor of Clinical Surgery in King's College, London.

GENTLEMEN: We have here the little boy on whom, at a former lecture, rather more than three weeks ago, you saw me operate for empyema, letting out a large quantity of thick yellow pus from the left pleural cavity by free incision in the infra-axillary region. You have seen him, several of you, from time to time in the ward; but I am anxious that you should have the better opportunity which is afforded by the theatre of seeing the progress of the case. This dressing was put on three days ago; on that occasion it was changed after an interval of five days. There is no real need that I should change it to-day, but I do so for the sake of showing you the boy's condition. Now that I have removed the dressing under the spray, you observe that it is almost free from discharge of any kind; it is, in fact, dry. I shall withdraw the silver tube that we have in the wound for the purpose of draining the pleura. This tube is filled, as you see, with white lymph, and it was because I saw this lymph in the orifice of the tube that I thought it well to take it out to make sure that the passage was clear. By turning the boy on his side, so as to make the opening the most dependent part, I am able to empty the pleural cavity completely.

It turns out, as I suspected, that the lymph in the tube had obstructed it. The perfect dryness of the dressing, combined with the appearance of the lymph, made me suspect this; and you see we have obtained from the child one ounce, not of pus, but of slightly tinged serous fluid. I should have been better pleased, for the child's sake, to have found, as on former occasions in this case, an entire absence of any fluid in the pleura; but for your sakes I am glad to see this serum, because it illustrates all the more strikingly the effects of antiseptic treatment. For I venture to say that this purely serous accumulation could not have occurred without antiseptic management.

Let me remind you of the principal features of this case. The left pleura was greatly distended with pus; the heart was pushed over to the right side, so that its apex beat at the right nipple. Aspiration had been repeatedly practised by the physician under whose charge he had been, with the usual result of aspiration in empyema—reaccumulation of the fluid, and that fluid always yellow pus. We opened the pleural cavity by free incision antiseptically, and from the time it was opened we have had no more purulent discharge. Now I do not hesitate to say that that sort of result could not have been obtained without compliance with two conditions—viz., affording free drainage to the fluid, and, at the same time, preventing the access of putrefaction. The failure of the aspiration has shown you that relief of tension of a merely temporary character is not sufficient. Aspiration removes tension for the time being; but the fluid soon reaccumulates in sufficient amount to reproduce decided tension; and that tension, acting in a reflex manner through the nervous system, brings about inflammatory excitement of the pyogenic membrane, into which the pleura has been converted by disease, and so reproduces the suppuration, on the same principle as it had been maintained previously. Therefore mere temporary relief of tension is not enough; we must have the permanent relief afforded by free drainage. But if, on the other hand, we had provided the free drainage, and at the same time not adopted efficient antiseptic means, we should, we may be quite sure, have had a continuance of the suppuration; because, though tension would have been prevented, the irrita-

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tion of putrid liquid would have acted on the pyogenic membrane of the pleura, and this could not have failed to stimulate it to pus-formation. In the present case, the tube having become accidentally obstructed, there had been again a little accumulation, not sufficient to reproduce suppuration—only an ounce of it; and this accidental circumstance has given you the opportunity of seeing for yourselves, in a very indubitable manner, that the fluid effused has been serum, not pus. You have thus before you a striking illustration of the beautiful pathological truth that a pyogenic membrane ceases to suppurate when freed from irritation. Had I shown you a dressing soaked with serous discharge, you might perhaps have thought, "Are we quite sure that there is not here some pus, masked by some action of the carbolic gauze upon it?" But when you have the serous fluid before you unmixed, as it is in this measuring glass, there can be no mistake whatever.

At the same time that the local condition has been thus satisfactory, the child's general state has been equally so. Before the pleura was opened, he was becoming very much reduced, and the appetite was extremely poor; since the operation, instead of suffering from a temporary fever, as would be likely to be the case if we opened the pleura without antiseptic measures, the little fellow has suffered no febrile disturbance whatever, but from the first began to improve, and is now like a different child, taking his food well, and increasing in strength from day to day.

It is worth while to remind you of the means by which these results have been obtained. In the first place the skin was well washed with the 1 to 20 watery solution of carbolic acid, which has the power of penetrating the epidermis and hair-follicles and any greasy dirt that there may be on the skin, so that it is quite unnecessary to do as many of our German friends do, wash the skin with soap and water and afterwards with sulphuric ether. Give the carbolic lotion a little time to act, and it will be sure to purify the integument.

In the next place, the instruments and hands having been cleansed with the same antiseptic lotion, we made an opening into the pleura under a thoroughly trustworthy carbolic spray. This, perhaps, of all cases of antiseptic surgery, is that which, on the one hand, most tests, and on the other most demonstrates, the efficacy of the spray. It tests it severely, because at every inspiration there is a drawing in of air in some form into the pleural cavity. If the patient is an adult, we can say to him, "Hold your breath," at the moment we make the incision; "Hold your breath," at the moment when we take off the deepest part of the gauze in changing the dressing; but with a young child, who is not amenable to persuasion, we can have no control over the respiration, and consequently during the operation, and also afterwards, at every change of dressing, air is drawn freely into the pleural cavity in some form or other. It is therefore necessary, if the spray is to be effectual, to be particularly careful to have a thoroughly reliable apparatus for its production, and that all our manipulations are so conducted that there shall never be a chance of any air other than spray being introduced.

Empyema is, therefore, a case requiring very special care in the use of the spray; but if that care has the effect of preventing putrefaction—and that this has been the case here is amply proved by the fact which you have all had the opportunity of verifying as I handed round the glass—viz., that the serum which has been accumulating for days is, nevertheless, absolutely odourless—if, I say, we avoid putrefaction completely from first to last, under the circumstances of empyema treated by free drainage, this is a complete proof of the efficacy of the spray. The pleura has been filled again and again in the course of these three weeks with atmosphere in the form of spray, and there can be no reasonable

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doubt that if ordinary unpurified air had entered in the same manner, carrying in its dust through the free opening, putrefaction would have occurred within the pleura. We have here, therefore, as good evidence as any experiment in a laboratory could afford of the power of the spray to correct the septic property of the atmosphere, or, in other words, to destroy the energy of the septic ferments which the atmosphere contains.

In the next place we have used carbolic gauze as a dressing. We have improved upon this gauze of late. The proportions we used of the ingredients were originally one part of carbolic acid to five of common resin, and seven of paraffin, the paraffin being added to prevent undue adhesiveness. We have now changed these proportions to one of carbolic acid, four of resin, and four of paraffin. By that means we have in the first place a gauze dressing with half as much carbolic acid again in it. It turns out that this is not too irritating, and therefore that is a great improvement; for the gauze is of course more efficacious antiseptically in proportion as it has more carbolic acid in it. From the diminution of the paraffin we have a little more adhesiveness, but that, I think, is positively an advantage. We do not find it causes any serious inconvenience, and on the other hand, it tends to prevent the disposition of dressings to slip upon the skin; it helps to keep them more securely in place. And then I may mention as a secondary, though not insignificant advantage, that though we thus increase so considerably the proportion of the carbolic acid, which is the most expensive ingredient, we have not added to the cost of the material as a whole, because pure paraffin[1] is so much more expensive than resin, that by diminishing the proportion of paraffin to the resin, we have cheapened the article more than we have enhanced its price by increasing the quantity of carbolic acid, so that the gauze is rendered slightly cheaper by this alteration of our proportions.

The gauze has been employed in the usual manner in eight layers, with a piece of mackintosh under the outer fold; but in a case like this we have also used the gauze in large amount in the form of loose-folded pieces underneath. In the earlier stages this is of great importance, because the flow of serum that takes place from the unsupported pleura in the earlier stages is exceedingly copious; therefore we have made the mass of gauze more than usual. In the adult it becomes necessary to change the dressings twice a day in these cases, but in this child the discharge being of course much less, once in the twenty-four hours proved sufficient.

Then, gentlemen, as to the keeping of this gauze dressing in position, you saw the elastic bandage round the edges of the dressing applied just sufficiently to bring the elasticity of the band into play, and so ensure that the edge of the dressing is always in contact with the skin, and thus, in spite of the respiratory movements, we get accurate apposition of the dressings, a point of great value with reference to the security of our results.

With regard to the kind of tube employed for drainage, for the first few days we had one of caoutchouc, as usual. There was only this difference as compared with its use in ordinary wounds: that into each of the two loops of silk connected with its orifice we introduced a substantial mass of gauze (soaked, like the deepest pieces of loose gauze, in the carbolic lotion), to make sure that the tube should not be sucked into the pleural cavity, as it might be if there were only the silk thread applied to the skin. If the drainage-tube were to enter the pleural cavity

[1] I regret to find that a crude form of paraffin is sometimes employed in the manufacture of the gauze. It has the great disadvantage that it acts on the caoutchouc of the mackintosh cloth used in conjunction with the gauze, and soon makes it soft and useless. When pure paraffin is used the mackintosh will last for weeks together, and is thus in the long run very cheap, as well as perfectly trustworthy.

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we should probably never be able to get it out again; and although it might perhaps lie there without causing disturbance, the occurrence is certainly one to be avoided. But in the course of a few days we found, as is usual in empyema treated by drainage, that the tendency of the thorax to contract on that side produced approximation of the ribs, so as to compress the india-rubber tube and interfere with the free flow of the discharge through it. We therefore substituted the metallic tube, about three-quarters of an inch long, long enough to go thoroughly into the pleural cavity, with a collar of metal to prevent it from slipping in, the tube being rounded at the end, with holes at the sides. It is sometimes the practice in Germany to cut away a piece of the rib in these cases to ensure free drainage. This I have not found to be at all necessary; the metallic tube, if used early enough before the ribs have got into contact, answers quite satisfactorily.

We have used carbolic acid in this case, although the child is only three years old. We have also in the hospital a child of only seven weeks, on whom I operated nearly a fortnight ago, on account of atresia aurium, and the head has since been kept enveloped in a carbolic-gauze dressing, without any interference with the infant's health. I mention these circumstances because I learned, to my great surprise, at Amsterdam lately, that it was considered by some surgeons an axiom that carbolic acid is so poisonous for young children that it should not be used for them at all; and I have since seen the same doctrine stated in print. Now, gentlemen, consider the circumstances of this little boy. In order to get a sufficiently large dressing on his small body, the carbolic gauze has been made to envelope his trunk from his armpits to his pelvis, and yet he has not suffered constitutionally at all; he has had no carbolic acid poisoning. This is sufficient to show that there is no need to abstain from the use of carbolic acid in young children from this fear. You may say, "How is it that we should not have carbolic acid poisoning, while some of our German brethren have it?" I believe the great secret of our comparative immunity from these toxic effects is that we avoid as much as possible all unnecessary action of the carbolic acid upon the tissues. Had I, for example, in this boy's case injected carbolic acid lotion into the pleural cavity, and done this at every dressing, as some persons might do, I think it is in the highest degree probable that he might have suffered from carbolic poisoning. Or, again, suppose the patient is not a child, but an adult, and suppose after making a considerable wound—as, for instance, in amputation of the thigh—you do as is often done on the Continent, viz., after stitching the edges of the wound together, and putting in drainage-tubes, inject a 1 to 20 carbolic acid solution with the syringe through the tubes. If I did such a thing as that, I should think it not at all unlikely that my patient might suffer from carbolic acid poisoning, because the interstices of the tissues just opened by the knife are ready to receive fluid that may be injected with any force towards them; and if you use a powerful syringe, and apply it to the orifice of a drainage-tube with the purpose of clearing out the wound, the cavity will probably be distended by the fluid, and there must be a great risk of having it forced into the interstices of the tissues, and thence passing in abundance by absorption into the circulation. This sort of practice is really quite unnecessary if you have a trustworthy spray, and operate so as to comply with the conditions of our physiological problem from first to last—conditions not difficult to comply with if we know that they are necessary, and keep a proper watch. And, again, in the changing of dressings there are many surgeons who, whenever they change the dressing under antiseptic treatment, make a point of syringing the wound out. There, again, is a most unnecessary application of carbolic acid to the system, and I believe the avoidance of this kind of practice is the principal cause of our immunity from

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carbolic-acid poisoning. I cannot point to one single instance in which I can be sure that we have had carbolic poisoning of any moment whatever, either in my hospital or private practice during the two years I have been in London.

At the same time I do not deny that in rare idiosyncrasies there may be carbolic-acid poisoning in spite of the avoidance of needless introduction of the agent into the system. I have seen such a thing myself. I have seen, for example, after removing the mamma and dressing with the gauze, the patient begin to suffer, not only from dark urine, which is in itself a matter of no moment, but from general debility, loss of appetite, and other symptoms of carbolic poisoning. We changed the gauze dressing for one of boracic acid, and immediately the symptoms disappeared. We left this boracic dressing on for several days, and then changed it under the carbolic spray; and time after time, as the result of the mere application of the carbolic spray to a limited portion of that lady's integument, did the symptoms of carbolic-acid poisoning return in a few hours, making it indubitable that that particular individual had a special idiosyncrasy for being so affected.

Now it is very desirable that, if such an occurrence should show itself, we should be prepared with means of an alternative character. I have alluded to the boracic-acid dressing. This is very good with superficial wounds or sores, as you have had the opportunity of seeing strikingly exemplified lately in a case of skin-grafting.

[The large callous and foul sore, having been dressed for a few days with a moist boracic lint covered with a gutta-percha tissue, was purified completely by sprinkling the surface lightly with the powder of iodoform, after washing the surrounding epidermis with strong watery solution of carbolic acid. Prepared oiled silk (protective) dipped in boracic lotion was then applied to the sore, and covered with boracic lint overlapping well in every direction. A similar dressing of oiled silk and boracic lint was applied every third or fourth day, until the granulations had assumed thoroughly healthy characters, when skin-grafting was performed by shaving a thin slice about a quarter of an inch across, consisting of little more than epidermis, from the inner side of the upper arm, which had been washed with 1 to 40 watery solution of carbolic acid, cutting this into small pieces on the thumb-nail, and placing each, with the raw surface downwards, on the granulations, each graft being covered, as it was deposited, with a little bit of the oiled silk dipped in boric lotion. A general piece of the oiled silk rather larger than the sore was then applied, and over this boric lint in two layers secured with a bandage. This dressing was left untouched for a whole week, so as to allow the grafts a long period without mechanical disturbance. We all know how black and foul oiled silk would be if left for a much shorter time upon a suppurating sore without the use of an antiseptic. But here it was quite free from discoloration or odour, while every one of the nine grafts was found to have taken root, and cicatrization was proceeding at the margins of the ulcer with a rapidity that could not have been hoped for under water-dressing changed daily.]

But we should not like to trust this mild boracic acid for deep-seated affections like empyema. What substitute, then, have we in case of the rare occurrence of carbolic-acid poisoning? I believe the best at present known is salicylic acid, first introduced into surgical practice by Prof. Thiersch, of Leipzig. It may be used in the form of salicylic jute, which is a pretty cheap material. Some weeks ago my friend Professor Bennett, of Dublin, told me of a case of empyema which he had to treat in the country. Carbolic gauze was not obtainable, but he had salicylic jute; he used this after opening the empyema under the carbolic spray, and he directed the country practitioner to apply the salicylic jute at every dressing on the same principle, and the result was a rapid cure after

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a course similar to that which you have been witnessing to-day. Here, then, we have evidence that in this exceedingly testing case, empyema, salicylic jute may answer the purpose as a satisfactory substitute for carbolic gauze. It must be applied in pretty large mass, and it will be well to have a piece of mackintosh outside, to prevent the discharge soaking directly through it.—*Lancet*, Dec. 20, 1879.

Hospital Notes.

Renal Abscess caused by a Fragment of Carious Vertebra Ulcerating into the Kidney and forming the Nucleus of a Renal Calculus.

A married woman, aged thirty-two, a music-hall dancer, was admitted into St. Mary's Hospital, Manchester, under the care of Mr. CULLINGWORTH, on May 9th, 1879, ten days after her ninth confinement. She had followed her occupation up to within seven months of her admission, to which date she referred the commencement of her present illness. For two years, indeed, she had occasionally felt pain in the left lumbar region after prolonged exertion, but about the time alluded to, after completing an unusually laborious engagement, she was seized with pain of a more severe character, and she presently noticed a swelling below the ribs, which, gradually increasing, led her to think she must be pregnant of twins. She suffered considerable pain in the left hypochondrium as well as in the back, and occasionally she felt the pain shooting downwards in the direction of the bladder. There was never pain during micturition, or any blood noticed in the urine, but during the last three months of her pregnancy the urine had been turbid, and since her confinement had smelt most offensively.

On admission she was looking pale, worn, and extremely ill. There was a distinctly fluctuating swelling anteriorly below the ribs on the left side, extending inwards nearly to the middle line, and downwards as far as the iliac crest. The percussion note over the swelling showed that there was bowel between it and the abdominal parietes. There was no lateral bulging but on the left side of the upper lumbar vertebræ posteriorly. There was another and much smaller swelling, in which fluctuation was not obtainable, but which communicated, on pressure, an indistinct impulse to the swelling in front. The patient endured constant and agonizing pain, and the swellings, particularly that in front, were exquisitely tender. The urine contained a large quantity of fetid pus. On two occasions an unusually large quantity of pus was passed, and each time the tumour temporarily diminished in size. The morning temperature varied from 99° to 100°, that in the evening from 101° to 102°. The pulse was usually about 110, sometimes rising as high as 130. There was obstinate diarrhœa, and the patient perspired profusely.

On May 30th the posterior swelling was aspirated, with no result beyond blocking of the needle with what the microscope showed to be a quantity of broken-down tissue.

On June 13th an incision one inch and a half long was made in the long axis of the posterior swelling. Immediately the skin was divided a quantity of reddish pultaceous material escaped, resembling what a fortnight before had blocked the aspirating needle. On passing in the finger, the transverse processes of the adjacent vertebræ were felt to be exposed and roughened from caries, and the lumbar muscles were found entirely disorganized and pulpified. At a depth of three inches from the surface a tense membrane was reached, evidently the poste-

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rior wall of the fluctuating tumour in front. Twelve ounces of fetid pus were withdrawn by the aspirator. The opening was then enlarged by means of a probe-pointed bistoury, the abscess explored, and two calculi removed with the aid of a small lithotomy-forceps. The cavity was syringed out, a drainage-tube inserted, the wound dressed with tenax, and the patient removed. She never rallied, and died on the third day.

Necropsy, twelve hours after death.—The left psoas muscle was almost completely disintegrated, the small portion remaining being closely adherent to the left kidney. The left transverse process, and the left side of the body of the second lumbar vertebra, had disappeared, and the tips of the left transverse processes of the first and third lumbar vertebræ were also implicated in the caries. The left kidney and ureter were enormously enlarged, and the pelvis of the kidney had become a distended suppurating cavity, which had been opened and partially emptied through the incision made posteriorly during life. At the bottom of one of the dilated calyces lay a calculus of the size of a half marble. The kidney itself was riddled with abscesses, and at its posterior and inner aspect, where it had been in close contact with the vertebral column and bound down to it by strong adhesions, there was an ulcerated opening permitting free communication between the diseased vertebræ and the interior of the kidney. There was no evidence of peritonitis or other morbid condition.

The largest of the three calculi was of a light colour and an extremely angular and irregular shape. At its centre, where it was bent at a slightly obtuse angle, was found a small nucleus of carious bone, and around this a layer of oxalate of lime, while the outer portions of the calculus consisted of phosphate with some admixture of carbonate of lime. The two smaller calculi, of which the one removed during life was about equal in size to a Calabar bean, were of a darkish-red mottled colour, and possessed a smooth surface. They were found on analysis to consist of phosphate and carbonate of lime. The weight of the largest calculus was 5.8 grammes, and that of the two smaller 1.87 grammes and .47 gramme respectively.

Remarks.—The sequence of pathological events in this case was unusual and interesting. It seems reasonable to suppose that the first morbid process was caries of the lumbar vertebræ, and that this was accompanied with chronic inflammation of the adjacent tissues, producing, in the case of the psoas muscle, disorganization, and in the case of the kidney, firm adhesion of the capsule to the vertebral column. A small portion of necrosed bone appears then to have made its way by ulceration through the substance of the kidney into the pelvis of that organ, where it became the nucleus of a calculus of considerable size, and the exciting cause of the formation of two smaller calculi. The patient's vocation as a public dancer would no doubt intensify the irritation produced by the presence of these calculi, the ultimate result of which was pyelitis, destructive suppuration, and death.—*Lancet*, Jan. 3, 1880.

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MONTHLY ABSTRACT.

Anatomy and Physiology.

Localization of Function in the Cerebrum.

M. JACCOUD, in the *Gazette Hebdomadaire*, relates two cases which he is of opinion tell against the view that there are separate centres in the cerebrum. The first case is that of a man, aged forty-two, with suppurative meningitis. The right hemisphere was very hyperæmic, but presented no adhesions of the menin ges, but the pia mater of the left hemisphere was infiltrated with pus, especially in the region of the central convolutions and central sulcus. The pia mater was adherent over the two upper thirds of these convolutions. During the last two days of life, the patient suffered from convulsions of the left side of the body, but there was no hemiplegia. M. Jaccoud sees in this case an example of unilateral convulsions in consequence of a stimulating lesion of the motor region of the same side. The subject of the second observation was a woman, aged eighty-three, who survived two days after an attack of apoplexy, and during this period suffered from hemiplegia of the right side, with anæsthesia. Speech was not disturbed, and death was the result of advanced phthisis pulmonalis. The left hemisphere was intact; the right presented an extensive flattened hemorrhage between the dura mater and the pia mater, covering the upper border of the hemisphere; so that the central sulcus was about its middle. No other lesion was visible. M. Jaccoud refers the hemiplegia in this case to compression of the upper parts of the central convolutions, but mentions also its occurrence on the same side.—*Lancet*, Jan. 3, 1880.

Influence of Sweating on the Digestive Power of the Gastric Juice, and on the Acidity of the latter and the Urine.

A paper, by M. SASSECKI, contains the results of his investigations into this subject. His experiments were undertaken with a view to ascertain whether gastric juice and sweating stand in similar relation to each other as gastric juice and urine, *i. e.*, whether the acidity of the two remaining fluids decreases, if one of the three acid fluids (gastric juice, sweat, and urine) is either eliminated or neutralized. This view is supported by the fact that individuals who perspire much frequently suffer from dyspepsia. M. Sassecki has made 63 experiments: 48 on patients, and 15 on healthy people, and has come to the following conclusions: (1) Sweating decreases the digestive power of the gastric juice. (2) The acidity of the gastric juice is decreased. (3) Both the absolute and relative acidity of the urine is also diminished. (4) The stronger the perspiration, the more the digestive power and acidity of the gastric juice are lessened, as well as the acidity of the urine. These results suggest other questions. Would it not be possible to increase the acidity of the gastric juice and the urine by diminishing the secretion of the skin and the perspiration, viz., by atropin? Do not dyspeptic patients, or at least those among them in whom dyspepsia is caused by want of acidity in the gastric juice, suffer from frequent sweats? Should it not be possible to increase the acidity of the gastric juice, the secretion of the skin and perspiration, by rendering the urine alkaline by means of a vegetable diet? —*London Med. Record*, Dec. 15, 1879.

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Materia Medica and Therapeutics.

Aconitia.

Dr. OULMONT, Physician to the Hôtel Dieu, terminates a memoir on aconitia, which he presented to the Académie de Médecine (*Gaz. des Hôp.*, Nov. 25) with the following considerations: It is a well-defined medicinal agent, which acts on man in a regular and certain manner, but which, on account of its energy, should only be employed in very small doses at long intervals. Frequently neuralgias are accompanied by well-marked intermittent and periodic accidents, to combat which quinine should be added. The important point, both for patient and physician, is to be able to rely upon a pure and unchangeable medicinal agent which is always identical in its composition and very scrupulously dosed. It is in order to attain this end that Dr. Moussette has prepared his pills, each containing very exactly a fifth of a milligramme of crystallized aconitia and five centigrammes of pure quinine. In consequence of the energetic action of the aconitia, the susceptibility of the patient should be tried by only commencing the first day with three pills—one morning, midday, and evening. If on the first day no marked sedative action is obtained, we may gradually augment the dose by a pill per diem until six are taken in the twenty-four hours, at which dose we should remain until the pain is subdued, only going beyond it in exceptional cases. If a little diarrhœa comes on, the dose should be diminished. To sum up, physiological investigations and clinical observations conducted in the Paris hospitals have demonstrated that the sedative action exerted by Moussette's pills on the circulatory apparatus, through the medium of the vaso-motor nerves, indicates their employment in neuralgia of the trifacial, congestive neuralgias, and in rheumatic, painful, and inflammatory affections. etc.—*Med. Times and Gaz.*, Dec. 6, 1879.

Anæsthesia by a New Method.

One of the most remarkable discoveries of the age is that attributed to Dr. PAUL BERT, the Professor of Physiology at the Sorbonne, which consists of producing anæsthesia by a mixture composed of nitrous oxide or laughing gas and oxygen, which has already rendered signal service in the practice of surgery. Pure nitrous oxide has for a long time been employed for the minor operations in surgery, particularly for the extraction of teeth; but the period of anæsthesia is extremely short; and the asphyxia, though momentary, has sometimes been attended with fatal results. M. Paul Bert conceived the idea of preventing the asphyxia thus induced, preserving at the same time the anæsthetic properties of the nitrous oxide, by mixing it with oxygen, which he afterwards verified by experiment. He then came to the conclusion that, if anæsthesia were not produced in this case, it was owing to the gas not having its normal tension, and to its not being absorbed in sufficient quantity. This led him to try the mixture in a chamber of compressed air, which he extemporized for the purpose; and the success of the experiment far exceeded his expectations. The following is the process, which was lately communicated to the Therapeutical Society of Paris by M. Limousin, a very enterprising pharmacien. The gaseous mixture is effected in the proportion of 85 parts of nitrous oxide and 15 of oxygen; and generally it is administered under a pressure of 17 centimetres of mercury, which would represent, at the normal atmospheric pressure of 76, a total pressure of 93 centimetres. The tension of the nitrous oxide is, therefore, $\frac{85 \times 93}{75} = 105.4$; that of the oxygen is $\frac{15 \times 93}{75} = 18.6$; a proportion a little too strong for the former, and a little

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too weak for the latter. Nevertheless, anæsthesia was produced without asphyxia. The nitrous oxide is prepared from the nitrate of ammonia; and the oxygen is produced by decomposing, by the aid of heat, a mixture of chlorate of potash and the peroxide of manganese. The two gases are introduced into balloons of caoutchouc or vulcanized India-rubber, in the proportions indicated above; and the dose is regulated by a small gasometer similar to that employed by the Gas Company of Paris. The balloons are united by means of India-rubber and glass tubes, in such a manner that the gas enters a small intermediate balloon, which serves as a regulator, and is provided with two tubes. The mixture is then administered by means of the well-known apparatus invented by Clover. The quantity of gas expended amounts to about ten litres per minute; hence it would require a large supply for a long operation, which is a great drawback, as it involves the necessity of using balloons of some size, which would encumber the chamber of compressed air, the space in the interior of which is already rather limited. This drawback would render the application of the process most difficult in the great operations, as it would take up a great deal of space, and necessitate the employment of a certain number of assistants. Yet, notwithstanding these inconveniences, the new anæsthetic process will doubtless be used when and wherever practicable; and Drs. Léon Labbé and Péan, the former of the Lariboisière Hospital, and the latter of St. Louis, have resumed their experiments at their respective hospitals, which were interrupted by the summer holidays. During the last half of October, M. Labbé performed eight operations under the new process, and with perfect success. The operations, which were varied in their character, were performed in the movable bell or chamber of compressed air organized by Dr. Fontaine for medical as well as for surgical purposes. One operation—removal of a cancerous breast—lasted sixty-four minutes, without any injurious influence on the patient; and this would lead to the hope that the larger operations—even ovariotomy—may also be performed without any danger. The following are the advantages of the new process: uniform dosage of the anæsthetic agent; suppression of the stage of excitement during the operation, and of vomiting after it; rapid return of sensibility, etc. MM. Labbé and Péan have arranged to avail themselves of Dr. Fontaine's movable *cloche;* the former on Tuesdays, at the Lariboisière, and the latter on Thursdays at the St. Louis Hospital. Dr. Fontaine is the founder of the Aërotherapic Establishment in the Rue Chateaudun.—*British Med. Journal*, Dec. 6, 1879.

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On the Hypnotic Value of Lactic Acid and Lactate of Soda.

Dr. DARIO MARAGLIANO publishes the results of a series of observations on this subject in the *Rivista Sperimentale di Freniatria e di Medicina Legale*, anno v, fasc. 3, 1879. The patients experimented upon were mostly quiet melancholiacs with obstinate insomnia. The acid was tried forty-nine times, and the salt twenty-six times. In twenty-five cases, lactic acid was given by the mouth in quantities of from one and a half to three drachms, with water and syrup; in none of these was there any beneficial effect. In sixteen cases, from one and three-quarters to two and a half drachms were given in the same way about an hour before supper; in only two of these (dose, one and three-quarter drachms) was the drug inert; in the other fourteen cases the patients went to sleep directly after going to bed, and slept until the morning. In eight cases, from two to three drachms of the acid, dissolved in water, were administered as an enema, sometimes before and sometimes after supper, but without producing any beneficial result. Lactate of soda (from two to four drachms, in six ounces of water, in divided doses), given in twelve cases after supper, produced no lasting sleep.

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From two to two and a half drachms given before supper in four cases, gave equally uncertain results. Sound and lasting sleep was caused in four cases in which three or four drachms of the salt were given by the mouth an hour before supper, and consequently upon an empty stomach. The same quantity administered, *per rectum*, in six cases, caused no sleep whether given before or after supper. Both the acid and the salt were tried in three cases suffering from constant excitement and restlessness; they were administered under the most favourable conditions as indicated by the results given above, but produced no effect whatever; later on, one centigramme of morphia was added to the usual dose, but equally without result; two centigrammes of morphia, injected subcutaneously, in two of these cases, gave good results. The author's conclusions are these: 1. Lactic acid, in doses of two to two and a half drachms, and lactate of soda, in doses of three to four drachms, given to quiet lunatics by the mouth, on an empty stomach, three or four hours before bedtime, are efficacious in producing sleep. 2. These drugs have no effect when the insomnia is accompanied by great agitation and excitement. 3. Lactic acid and small doses of morphia, when administered together, do not mutually enhance one another's effects as has been stated to be sometimes the case. 4. The use of lactic acid and its salts as hypnotics for quiet lunatics is not to be preferred to that of those commonly employed at present (*e. g.*, chloral and morphia), on account of the following disadvantages: tardy action, the gastro-enteric disturbances which they produce, and their greater costliness. Dr. Maragliano's experiences in the use of these drugs quite confirm previous observations as to their very harmful effects upon the alimentary system. —*London Med. Record*, Dec. 15, 1879.

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On a Combination of Chloride of Ammonium with Iron.

Professor T. GRAINGER STEWART (*Practitioner*, August, 1879) in drawing attention to a certain condition which often arises in cardiac affections (particularly aortic disease), demanding for its treatment large doses of iron, states that, in some cases, both belonging to the above groups and of other kinds, the reception of iron by the system is greatly facilitated if chloride of ammonium be administered along with it. The form of iron he finds best is the tincture of the perchloride; to this he adds chloride of ammonium, in doses of half a grain to each minim. He maintains that in cases in which iron, if given alone, causes dyspepsia, the latter is relieved by the combination described, and the patient is enabled to bear large doses of iron for a considerable time.—*London Med. Record*, Dec. 15, 1879.

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Intravenous Injection of Milk and of Sugar.

In a paper, giving to the Société de Biologie (*Gaz. Med.*, Dec. 6) an account of a series of experiments which they have undertaken, Drs. Moutard-Martin and Charles Richet arrive at the following conclusions: 1. Injection of a large quantity of milk kills by bulbar anæmia. 2. The introduction of the lactic ferment into the veins of an animal seems to produce no effect. 3. Injection of concentrated solutions of sugar kills by bulbar anæmia. 4. Milk injected into the vascular system produces no immediate action, either on the pulmonary circulation, on muscular contractility, or on the vitality of the cerebral nervous centres or the nerves. 5. Sugar injected into the veins is rapidly excreted by the urine, and induces an intense polyuria and an abundant intestinal secretion. 6. The symptoms ensuing on large injections of milk are vomiting, polyuria, movements of deglutition, and later, sharp cries, disturbance of the respiratory innervation, contraction of the muscles of the limbs, and arrest of the action of the

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heart. 7. At the autopsies of animals killed by the injection of milk or sugar, there is found very marked intestinal injection, and subendocardiac ecchymoses are of *constant* occurrence. 8. In a therapeutical point of view the injection of milk is a useless and dangerous operation, and one which should be absolutely proscribed.—*Med. Times and Gazette*, Dec. 13, 1879.

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On Menthol as an Antineuralgic.

Mr. A. D. MACDONALD extols the virtues of this substance, which is a volatile solid obtained from Chinese or American oil of peppermint, as a remedy in the various forms of neuralgia. The solution he uses is the following: Menthol gr. j; spt. vini rect. ℥j; olei caryoph. ℥x; mix. To be shaken and painted over the affected tract. Pain is in this way relieved in from two to four minutes, and within a minute or two more the attack ceases. In toothache, the author has cleaned out the cavity of the tooth with a little cotton-wool, and then placed a single crystal on another small piece of wool and inserted it, with the result that the pain instantly disappeared. A tincture of the strength 1 in 50 is equally effective. Mr. Macdonald recommends menthol as a suitable external application in sciatica, intercostal neuralgia, and brachialgia.—*London Med. Record*, Dec. 15, 1879.

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Vaseline in Gynæcological Practice.

Dr. SINETY, in *Le Progrès Méd.*, Nov. 29, calls attention to the value of this substance, in place of fatty substances, glycerine, soap, etc., for facilitating the introduction of the finger, speculum, or other instruments, and as an excipient for medicinal substances when applied to the os uteri. In place of using simple vaseline he prefers combining it with carbolic acid (one part to fifty of vaseline No. 1) in order to obtain disinfective properties when applying it to the finger, instruments, etc. Medicinally, iodine, iodide of potassium, belladonna, etc., may be applied by its agency.—*Med. Times and Gazette*, Dec. 6, 1879.

Medicine.

On the Treatment of Typhoid Fever.

The following address on the treatment of typhoid fever was delivered by Sir WILLIAM JENNER before the Midland Medical Society at Birmingham, and is an able and elaborate statement from one who is recognized as the highest living authority in Great Britain on the subject of which it treats.

After acknowledging the honour of the invitation to address the Society, Sir William Jenner said:—

Though I have nothing new on the matter to bring before you this evening, and have therefore in some measure to pray your pardon for occupying so much of your valuable time in the enumeration of common truth, I still think myself justified in selecting the Treatment of Typhoid Fever for my paper to-night—(1) because of the intrinsic importance of the subject; (2) because some of the questions concerning the treatment of typhoid fever are considered by many to be still undecided; (3) because not only have I had, for a longer period, probably, than any of my hearers, much experience in the treatment of the disease, but I have also had during later years frequent opportunities of myself seeing the results of various modes of treatment as practised by others; (4) because, although

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I have written much and often on the etiology and pathology of the disease, I have never publicly expressed any opinion or written a line on its treatment.

In so complex a disease as typhoid fever—the mortality and symptoms of which vary not only with the age, habits, and family constitution of the patients, but also with the dose and mode of access to the system of the poison, the conditions which precede and those which accompany the disease during its incubative period and its earliest development, the epidemic constitution, the date at which the disease is first treated, and the early management of the patient; it is scarcely possible to find two cases in all respects identical, and quite impossible to collect records of a sufficient number of cases practically identical to determine by numerical analysis the best mode of treatment. And even of the specially prominent symptoms—*e. g.*, temperature, rapidity of pulse, diarrhœa—each one may owe its origin to such different pathological conditions, and it is so often impossible to determine in any given case to which of these several conditions it is due, that in the *present state* of pathological knowledge it seems to me that it is impracticable to determine otherwise than by the opinions formed by individuals from personal experience, what are the best means to be employed in the treatment, not only of typhoid fever itself, but also of each symptom, and how and under what circumstances each remedy should be employed. I do not in the least degree under-estimate the immense importance of numerical analysis for arriving at truth on medical subjects; and if it were possible to find the value of the several remedies proposed for the treatment of typhoid fever, or of its symptoms, by numerical analysis, the results of such an analysis would be real steps in our knowledge, for facts would replace opinions, and doubts in regard to the influence of remedies be impossible. Each special act of treatment would then be based on firm grounds, instead of being, as it now is, an experiment performed by the medical attendant. The sum of his own experiments constitutes each man's experience, to which, in proof of the correctness of his practice, he appeals as to a judge whose decision is final and infallible. And yet how different are the conclusions, all based on experience, drawn by different observers in regard to the effects on any given disease or symptom of any given remedy. The physician orders a drug or a stimulant, or employs a bath; and then, according to the credulous or sceptical tendency of his mind, his experience in the special disease he is treating, his knowledge of its natural course and history, his powers of observation, and the general soundness of his judgment, the *post hoc* is, in his opinion, a mere *post hoc*, or a veritable *propter hoc;* and the remedies he employed have been, in his opinion, of little consequence, or all-important; and so he builds up his experience on treatment. And the difficulty of building up treatment by the accumulation of the experience of many men, expressed in their opinions merely, is enhanced by the fact that, even when the conclusion is correct, the good effect following the administration of the drug is a veritable *propter hoc;* it is for many men an impossibility to follow or define for themselves, much more describe to others, the several steps, in the mental analysis of the facts before them, they have performed in arriving at their correct conclusion. Some men appear to be capable of performing this delicate mental analysis correctly without being able to follow the steps of the analysis in their own minds; they are no more capable of following their own mental efforts, or of telling another how they arrived at their correct conclusion, than are those children who solve complex arithmetical problems in a few seconds without themselves knowing by what steps they pass from the premises to the conclusion.

Believing, however, notwithstanding all these sources of serious error, that in the present state of pathological knowledge it is impossible to fix the treatment of typhoid fever on a more sure basis than individual opinions founded on expe-

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rience, I propose to describe what my experience has taught me to be the most successful methods of treatment of the disease, and also of some of the symptoms which by the severity they may attain cause grave discomfort to the patient, or place his life in danger. I shall limit myself to those symptoms which may be considered to be the natural manifestations of the disease, for time will not permit me to pass even briefly in review all the symptoms common in the disease or the complications, although the patient often succumbs to these symptoms and to these complications.

To give a clear view of the treatment of these symptoms, I shall be obliged to refer to the pathological conditions in which they severally originate.

I have never known a case of typhoid fever cut short by any remedial agent—that is cured. The poison which produces any one of the acute specific diseases (to which order typhoid fever as much as smallpox belongs) having entered the system, all the stages of the disease must, so far as we know, be passed through before the recipient of the poison can be well. If the patient can be kept alive for a definite time the specific disease ends, and then, if no local lesion remains to constitute a substantive disease, the patient is well. The treatment of typhoid fever is essentially rational. To treat a case with the best possible prospect of success the physician ought to be acquainted with the epidemic constitution of the period, the etiology of the disease, its mode of attack, its natural course, the order of appearance, and the natural duration of each of its symptoms, the way in which each symptom influences the termination, the several pathological lesions which produce or may produce each special symptom, and the complications to be watched for at each stage of the disease.

Certain facts have to be kept in mind when treating a case of typhoid fever, and when estimating the effect of remedies: First, that the disease, in the majority of cases at least, is produced by the action of a small portion of the excreta from the bowel of a person suffering from typhoid fever; that air from a drain, or air blowing over dried feculent matter, may convey the poison to the patient, or his own fingers may carry it to his mouth, or that the vehicle for the poison may be a fluid—for example, water or milk; and that the poisonous properties of the excreta may be destroyed by boiling the fluid in which they are contained, though not by filtering the fluid. Secondly, that the natural duration of a well-developed case of typhoid fever is from twenty-eight to thirty days. Hence subsidence of the fever before that date should be regarded with suspicion, and the patient not treated as if the specific disease had ended, while the continuance of febrile disturbance after that date should lead to repeated and most careful examination of the patient, in order to ascertain if any local lesion is keeping up the febrile excitement. But not only is the duration of the specific disease limited, but the prominent symptoms have their regular order of sequence, and several their own natural limits of duration—that is, a time to begin and a time to end; and the natural termination of a symptom has often been attributed to the remedial agent last employed.

On what part of the system the poison exerts its earliest influence, whether on the agminated glands or on the nervous system through the blood, must in the present state of our knowledge be doubtful; but that by the time the first symptoms of the disease occur the nervous system and the agminated glands of the small intestine are both seriously affected there can be no question. That the nervous system suffers at the outset is shown by the headache and the general nutritive disturbance—*i. e.*, by elevation of temperature and loss of weight, due to waste of the tissues generally, and by the arrested or disturbed secretions generally; and that the agminated glands also suffer from the outset is shown by the pain in the abdomen and deranged action and secretion of the bowels, and also

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by rare post-mortem examination made within a few days of the beginning of illness.

In the earliest stage of typhoid fever the patient is prone to commit certain mistakes in treating himself, either of which may add greatly to the severity of the coming illness. (1) He may think that he has a common cold in his limbs, as it is called, and try to throw it off by strong exercise. A certain sense of weakness accompanies this early stage of the fever, but it is rarely so great as to prevent the patient, if stimulated by strong will, walking long and briskly. (2) He may consider that he is suffering from biliary derangement, and attribute to this the headache, disturbed nights, sense of malaise, want of appetite, and disordered bowels, and take a dose of drastic aperient. (3) He may think the weakness he feels is to be removed by food and wine. A dose of medicine, he says, cannot hurt; bed, he thinks, weakens; and food and wine, he knows, restore strength; therefore he prescribes a dose for himself which irreparably injures his bowel; he takes exercise which increases the waste material in his system, and he loads his stomach with food it cannot digest and stimulants which heighten the fever and disturb the action of the eliminating organs, and then pays the penalty, perhaps with his life, for the errors his ignorance has led him to commit.

The thermometer saves, or ought to save, the physician from the patient's mistakes. The temperature having rendered it even *possible* that the ill-defined and may be trifling symptoms are due to the poison of typhoid fever, the patient should be absolutely confined to bed. Exercise or fatigue immediately before or after the absorption of the poison, and especially when the action of the poison is manifesting itself, increases the gravity of the disease, partly by exhausting the nervous power, but chiefly, I think, by causing destruction of tissue, and so the presence of waste material in the system on which the poison can act; and at the same time, by disturbing the action of the eliminating organs, it leads to the retention in the system of the products of the destroyed tissue.

Some of the worst cases of typhoid fever I have ever seen have appeared to me to owe their gravity to the patient having travelled, after the commencement of the sense of illness, in order to reach home. I very rarely advise a patient's removal to his home, if that be distant, so satisfied am I that the fatigue of travel, whether by rail or carriage, tends to make what would otherwise have proved a mild case severe, and to cause a bad case, which might after perhaps a struggle have ended favourably, to terminate in death. Not only is other tissue-destruction than that due to the fever process in a great degree prevented by rest in bed, but the nervous system is there less liable to disturbance, any tendency to moisture of skin is favoured, the elimination of the products of waste tissue is unchecked, and chances of error in diet diminished. The air of the room should be as pure as possible; the room in which the patient is placed be large enough to permit it being freely ventilated without draughts; if possible, the patient should occupy a different room at night from that used in the day.

From the first the patient should be restricted to liquid diet, with farinaceous food, and bread in some form if the appetite requires it. It is better to vary the broths, and to add to them some strong essence of vegetables. Sometimes a little strained fruit juice is taken with advantage, but skins and seeds of fruits and particles of the pulp are frequent sources of irritation of the bowel. Grapes are always dangerous from the difficulty of preventing the seeds slipping down the throat. The value of milk as an article of diet in fever is generally admitted, but it requires to be given with caution. The indiscriminate employment of milk in almost unlimited quantities as diet in fever has led to serious troubles. Milk contains a large amount of solid animal food. The casein of the milk has to pass into a solid form before digestion can take place. Curds form in the stomach,

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and, the digestive powers being weakened in fever, these curds may remain unchanged in the stomach, and produce considerable disturbance of system.

I have seen the patient restless, sleepless or drowsy, his temperature raised several degrees above what it had previously been, vomit, eject a quantity of curd, and at once the restlessness cease, the temperature fall, the skin became moist, and the patient drop into a quiet sleep. All the threatening symptoms vanish with the ejection of the offending material. Or the undigested curds may accumulate in the bowel, inducing flatulent distension and pain in the abdomen, restlessness, and increased febrile disturbance. Under these circumstances, I have seen an enema of thin gruel bring away a large vesselful of offensive, sour, undigested curds. Or, again, the undigested curds may themselves (and this has not been an uncommon consequence of milk diet in my experience) irritate the bowels, and produce, keep up, or greatly increase diarrhœa. A distinguished chemist once remarked to me, "Do not forget that a pint of milk contains as much solid animal matter as a full-sized mutton-chop;" and solid the casein of the milk must become before it can be digested; and yet I have known a patient drink two quarts and even more of milk in twenty-four hours—*i. e.*, solid animal food equal to four mutton-chops. Can anything approaching to such an amount of solid animal food be digested, and, if it could, is such an amount of animal food good for a patient suffering from typhoid fever? He is weak because of the presence of the fever, and not from lack of food.

Patients suffering from typhoid fever should be allowed an unlimited supply of pure water. When pure water is freely absorbed, it passes away by the kidneys, skin, lungs, etc., and is of much service as a depurating agent. If it be *possible*, even, that the poison of the fever was conveyed into the patient by the drinking-water or the milk of the district in which he is ill, then these fluids should be boiled till a different supply is obtained. All sources of foul air from drains or cesspools should be sought for, and the air the patient breathes be freed from all possibility of impurity; disinfectants should be placed in the close-stool, and the dejecta buried if possible. If the bowels are confined in the early stage of the disease a simple enema should be given. Hard stool retained in the bowel will produce irritation, and it may be catarrhal inflammation of the intestinal mucous membrane, and so induce troublesome diarrhœa. Small doses of mineral acid, well diluted, are grateful to the patient, and may perhaps be useful.

The fever is thus met by rest, quiet, fresh air, mixed liquid food and bland diluents, and the exclusion of fresh doses of poison; the intestinal lesion by the careful exclusion from the diet of all hard and irritating substances, and the removal from the bowel of any local irritant.

Frontal headache and sleeplessness are two symptoms of the early stages of typhoid fever which may cause the patient much distress. The headache is in some cases alleviated by cold and in others by warm applications; but as the headache ceases spontaneously in about ten days from the outset of the fever, no active treatment is required for its cure. Local applications, the exclusion of light from the room, and absolute quiet, have been all the means I have seen necessary for its relief. Sleeplessness is a more important symptom, for although it also usually disappears or diminishes spontaneously during the second week of disease, still this is not invariably the case; and the nervous system may be greatly worn by the want of sleep, lasting as it does occasionally, unless treated, night and day. The drugs I employ when, from the continued sleeplessness, it seems absolutely necessary to relieve it, are henbane, bromide of potassium, and chloral. From a combination of the latter I have seen very good results, and, so far as my experience has gone, no really ill effects when its use has been limited to the earlier stages of the disease—*i. e.*, to the period anterior to signs of nervous pros-

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tration. If the patient's temperature be high, a tepid bath or sponging the surface will often at once induce sleep, and no drug be required. In the earlier and also in the later stages of typhoid fever the sleeplessness has been treated by opiates. Experience has convinced me that although, in some cases, opium in sufficient dose to secure sleep has afforded relief, it is on the whole a most dangerous remedy. In the early stage of fever it disturbs digestion and checks secretion. In the later stages of the disease I have seen several cases fatal from its influence on brain, heart, and secreting organs. To my mind, the hoped for and occasionally attained good is altogether outweighed by the disproportionately possible evil and occasionally fatal effect resulting from the administration of direct sedatives, opium and chloral, in the later stages of fever.

Changes in the agminated glands are present from the earliest period of the disease, and to these progressing changes in Peyer's patches, in the mesenteric glands corresponding to the patches, and to the disturbances in the intestinal secretion and action consequent on these changes, the abdominal pains and laxness of bowels proper to the fever are due. So long as disease is limited to the specific changes in question there is probably little diarrhœa, but as local disease progresses catarrhal inflammation of the mucous membrane supervenes, and when this is extensive the stools become frequent, liquid, and more or less copious.

The changes preceding the ulceration, and the ulceration itself, of Peyer's patches are specific in nature, as much so as is the eruption on the skin; and there are no drugs or other means of arresting or limiting these specific processes. But over the diarrhœa which usually accompanies these processes in their progress we can, in many cases, exercise a decided influence.

The chief causes of diarrhœa in excess of that due to the intestinal specific changes in typhoid fever are: 1. Error in diet—*e. g.*, the use of solid food; the presence of particles of undigested food in the bowel, the abuse of milk, pure animal broths. My own experience has not satisfied me that one animal broth is more prone to produce diarrhœa than another. Excess of fluid, when there is inability to absorb the quantity drunk, passes through the bowel, and so simulates excessive secretion from the intestinal mucous membrane. 2. Catarrhal inflammation of the mucous membrane and irritability of the bowel. These conditions are frequently the consequence of, or are greatly increased by, the unhealthy intestinal secretions and contents, evidenced by their ammoniacal and especially offensive odour and strong alkaline reaction, and by the passage through the bowel of undigested food, whether liquid or solid. So long as the stools do not exceed three to five of moderate quantity in twenty-four hours, the looseness of bowels is rather advantageous than injurious; but when, from their number or from their quantity, there is risk of the strength of the patient being reduced to a dangerous degree, then it becomes necessary to restrain the diarrhœa. The treatment varies with the pathological condition which induces the diarrhœa. It is often sufficient to examine the stools to detect the cause and remove it—*e. g.*, curds of milk. Inquiry may prove the great excess of the fluid taken into the stomach over that passed by kidneys and skin. When the stools are strongly alkaline diluted sulphuric acid sometimes affords marked relief. When the stools are merely frequent four ounces of starch water thrown into the rectum night and morning will often check the frequent action. Should this not prove efficacious from three to ten drops of laudanum in one ounce and a half of starch water may be thrown into the bowel night and morning *after* the passage of the stool. When very offensive, correctives of fetor should be given; a teaspoonful of charcoal may be given two or three times a day. Under its influence I have seen the stools lose their fetor and ammoniacal odour, become less liquid, and in many cases the irritation from the catarrhal inflammation of the mucous membrane diminished. The greatest

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possible care should be taken that the charcoal is an impalpable powder; animal charcoal has, in this respect, some advantages over vegetable. Other correctives of fetor, or antiseptics, will have as good effect as charcoal, but this has given me such satisfactory results that I have not resorted to other remedies of its class.

Carbonate of bismuth, in twenty-grain doses every four or six hours, is one of the best remedies I know for the catarrhal inflammation of the bowel itself. If the fluid poured out be very excessive, then a vegetable astringent, as catechu and kino, may be given with the bismuth, and, should these means fail, three to five drops of laudanum must be added to each dose of the mixture. The use of opium, even in this dose, by the mouth, should be avoided if possible, as, by interfering with the action of excreting organs, and by its other effects on the nervous system, it may do more harm than the symptom for which it is prescribed. The administration of opium should if possible be limited to the bowel.

In place of being relaxed, the bowels are occasionally confined. Inaction of the bowels in typhoid fever may be due to torpidity of the large bowel, with free absorption of the fluid contents or diminished secretion of fluid by the mucous membrane of the bowel. Under these conditions the stools become even hard and dry, and, if long retained in the bowel, may produce considerable irritation, and even catarrhal inflammation, of the mucous membrane of the bowel, with diarrhœa.

At the same time that solid stool accumulates in the rectum and colon, which may require removal, there may be extensive or deep ulceration in the ileum. A small-sized enema of thin gruel, repeated every other day if necessary, is safer than a large enema at longer intervals. Laxatives, however mild, by the mouth, are liable to irritate the ulcerated surface of the bowel, and, if sloughs are separating, may forcibly hasten the detachment, and so produce hemorrhage and turn the scale between recovery and death.

The most important, and a not unfrequent, cause of inaction of the bowel in typhoid fever is *deep* ulceration of one or more Peyer's patches. Large superficial ulcers favour the occurrence of diarrhœa, and are often accompanied by catarrhal inflammation of the mucous membrane. A single *deep* ulcer will paralyze the action of the bowel, and so cause constipation, and this has to be kept in mind as a fact of the highest practical importance when it is proposed to relieve the bowels by an aperient. A deep ulcer is usually produced by the separation of a deep slough, and is often unattended by any catarrhal inflammation of the small intestine, or by any affection of the large intestine.

In all cases of typhoid fever there is some distension by flatus of the abdomen—the belly is more or less blown. The distension is sometimes so great as to interfere with the free play of the diaphragm, and so, by preventing the full expansion of the lungs, favour congestion of those organs and impede the circulation. Fluid will run through the bowels with little effort; air requires expulsion. Excess of flatus in the bowels may have its origin in deficient power of expulsion or excessive generation of gas. Sufficient paralysis of the bowel to cause accumulation of flatus may be the result of loss of nerve energy, or of local injury of the bowel. A single *deep* slough-formed ulcer will paralyze the action of the bowel, and lead to such an accumulation of flatus as produces enormous distension of the abdomen; the weaker the abdominal muscles the greater, *cæteris paribus*, the accumulation of flatus. Want of power to expel the flatus, and excess in the quantity formed, reach their maximum as a rule about the latter half of the third and during the fourth week of the fever, for then the sloughing and ulcerative processes of the walls of the intestine are at their height, the nerve-power is at its lowest, and the contractile energy of the abdominal and intestinal muscles is consequently at its minimum; while, from the state of the stomach and the secreting glands generally, the antiseptic digestive processes are in a great degree arrested, and the food that

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finds its way into the intestines mingling with the fetid secretions from the diseased intestines, and with the sloughing particles separating from the solitary and agminated glands and from the floors of the ulcers, readily undergo gas-generating decomposition. Of all the remedies proposed for the relief of flatulent distension of the abdomen, turpentine applied externally is the most extensively employed in practice. Now I must say, with reference to the external application of turpentine, that I have never seen a diminution of the distension which seemed to me to be *propter hoc*.

The brief outline I have sketched of the pathological conditions causing the distension gives the key to what has seemed to me to be its most successful treatment. If the stools be fetid and the distension is in part due at least to the excess in the gas formed, then to destroy this fetor and to arrest putrefaction and gas-generating decay of the contents of the intestine is for me the first object. Charcoal has proved a most efficient agent for effecting this purpose. It is of importance to select as food substance which leaves no solid residue to undergo decomposition in the intestine. The administration of pepsin and acid at the same time as the food, and also the partial digestion of the food before it is taken, is often advantageous. The large intestine is occasionally so greatly distended as to lose from stretching its contractile power; the introduction of a long tube into the bowel, and the mechanical removal of some of the gas, will occasionally be sufficient to enable the bowel to regain some of its contractile power. Alcohol in fit doses improves the nerve-energy, and so increases temporarily the muscular power of the intestinal and abdominal walls.

(*Conclusion in next Number.*)

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On Epileptiform Syphilis.

Dr. Celso Pellizzari details (*Lo Sperimentale*) the particulars of three fatal cases of cerebral disease, accompanied by convulsive attacks, in syphilitic subjects, which occurred in the hospital at Florence. Case I.—A man, aged 38, was admitted on account of convulsions, which had recurred more or less frequently during several days. There was a history of syphilis sixteen years before, and the man bore marks of old syphilitic sores about his body. He married five years after having contracted syphilis, and became the father of five sons, who died soon after birth. A sixth son was still living. There was no family history of epilepsy, and the first convulsive attack had occurred about ten months before the patient came under observation. On admission, the convulsions were confined to the left side of the body, and recurred almost every ten minutes, but soon became more general and with less interval between the attacks. Unconsciousness gradually supervened, and the man died two days after admission. The case on admission had been recognized as a syphilitic one, and mercurial inunction, with iodide of potassium internally, had been at once prescribed. *Post mortem*, there was found firm adhesions of the membranes to the right frontal lobe of the brain, over an area about the size of a five-franc piece. At this spot also the cortex of the brain was to a great extent destroyed, and its place taken by well-organized connective tissue. There were bony formations on the internal surface of the cranium, and also in the meninges; and gummy nodules of both testicles. Case II.—A boy, aged 8, born of syphilitic parents, who had himself been under treatment at various times for congenital syphilis, was suddenly seized during the night with a convulsive attack of very short duration. Next morning another fit occurred, involving only the left side of the body. In a third attack, the child fell down in the street. There was no family history of epilepsy. Other attacks occurred from time to time, and the

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child was brought to the hospital. After admission, under mercurial inunction and iodide of potassium internally, great improvement took place; the fits became much less frequent, and the child began to walk about the ward. All was apparently going on well, when the patient was attacked suddenly by typhoid fever, and died in about three weeks. *Post mortem*, the skull and dura mater were found quite healthy, as was also the pia mater, except the right parietal region, where it was a little thickened and opaque. There was slight wasting of the brain-substance. No gummata nor tubercles were found. At the upper part of the right lung was a circumscribed patch of pneumonia surrounding a cicatrix, which seemed to be that of a bygone gumma. The liver presented a deepish cicatrix on its convex surface. In the intestines, clear evidence of typhoid was found. The author relates a third fatal case in which convulsions, beginning unilaterally, were probably due to syphilis. He also refers to the writings of most of those who have written on brain syphilis of late years, and discusses at considerable length the etiology, diagnosis, prognosis, and treatment of cerebral syphilis, attended by epileptiform seizures.—*London Med. Record*, Dec. 15, 1879.

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On Syphilitic Myositis.

The following case occurred in the service of M. DUPLAY (*Archives Gén. de Méd.*, 1879, p. 731): A man had an abscess in the axilla, supposed to have been caused by the use of a centre-bit in his work. The abscess broke, and much pus escaped. There was no lesion of any of the fingers. The wound gradually ceased to discharge, and was going on well when, three weeks after the opening of the abscess, redness appeared over the whole pectoralis major, together with slight œdema and pain on trying to separate the arm from the side. The pectoralis major subsequently became as hard as wood, and the arm could not be moved. M. Humbert, who had charge of the patient, diagnosed suppuration, and passed a drainage-tube through the muscle, but with no good effect. The history of the patient was then inquired into, and syphilis was found to have been contracted four years previously. Under specific treatment all the inflammatory symptoms as well as the hardness quite disappeared, but the muscle became atrophied.—*London Med. Record*, Dec. 15, 1879.

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Salicylic Acid in the Treatment of Diabetes.

Dr. SCHAETZKE, publishes in the *Berliner Klin. Wochenschrift* for June 2, 1879, the history of three cases of diabetes successfully treated by salicylic acid. The first case was that of a lady aged 50, who had for eighteen months been under treatment for chronic gastric catarrh. Her father, sister, and husband had died of tuberculosis. When she was seen by the author, he at once suspected diabetes from the excessive thirst, polyuria, caries of the teeth, etc. The urine was examined, and found to contain sugar; the specific gravity was 1038. The patient was treated with salicylic acid, 3 *grammes* (45½ grains) being ordered to be taken three times daily for three days. On the first day, however, she felt giddy and had nausea. On the second day, she vomited once; her hearing was affected, and her gait became unsteady. The dose was, therefore, reduced from nine *grammes* daily to three *grammes*. Owing to her intolerance of salicylic acid, Herr Schaetzke sent her to Carlsbad. Upon her arrival there, the urine was found to be perfectly free from sugar, and remained thus both during her cure and afterwards. The second case was that of a man aged 58, who probably had been suffering from diabetes for the last two years. The urine contained a considerable percentage of sugar. As the patient could not be prevailed upon to go

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to Carlsbad, he drank the waters at home, but without much benefit. Herr Schaetzke then again resolved to try the salicylic acid treatment, beginning, as in the first case, with three *grammes* three times a day. The patient also evinced great intolerance of the drug. It was, however, continued for two weeks, in doses of three *grammes* daily during the first week and two *grammes* during the second week, when the sugar disappeared from the urine and did not reappear. The other case was that of a girl aged 26, who had been suffering from colic for years. She was treated in the same way as the two other patients, but was obliged to discontinue the treatment after the first four days, owing to her intolerance of the drug. A week later, another attempt was made with a dose of two *grammes* daily; this was continued for a fortnight, when the urine remained free from sugar. It is curious that in every one of these cases the patient should have been so intolerant of the salicylic acid. Could this phenomenon be in any way connected with their disease? and, if so, in what way? A series of three cases can hardly be regarded as sufficient for establishing the reputation of salicylic acid as a cure for diabetes; but the subject is worthy of being more thoroughly investigated.—*Brit. Med. Journ.*, Oct. 11, 1879.

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Cortical Paralysis of the Arm.

At a recent meeting (Nov. 11, 1879) of the Paris Académie de Médecine, a paper was read by M. GASTON DECAISNE, containing the history of thirty-six cases of brachial monoplegia, of which several came under his own observation. His conclusions point to the fact that there exists in each cerebral hemisphere a centre which regulates the motor power of the upper limb of the opposite side; that this centre, which is more extended than has hitherto been generally supposed, comprises not only the ascending frontal and parietal, but also a smaller or greater portion of the adjacent frontal and parietal convolutions. M. Decaisne believes that, in consequence of the large surface of the motor centre, the re-establishment of the motion may be effected by the aid of the cells in the vicinity of the lesion which have remained healthy. He also describes the peculiar characteristics of the paralysis in question very well, and his memoir will help to their being distinguished from those having a central origin, a diagnosis which is often very difficult at the bedside.—*Brit. Med. Journ.*, Dec. 13, 1879.

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Bromide of Potassium in Pertussis.

Dr. KÖRNER, of Trebniss, writing in the *Berlin Klin. Woch.*, Nov. 7, says that he should not have repeated the recommendation of inhalation of the bromide, which he formerly published, had not a recent epidemic of wide extent given him ample reason for recurring to the subject. He treated all his cases in this by inhalation, effecting a cure in a proportionally short time. He employed a solution of from 2 to 5 per cent. (usually 4 or 5), about twenty grammes of which were inhaled three times a day. The effect was surprising. After the first inhalation decided improvement was observed, and in from three to five days the paroxysmal cough had ceased, and the expectoration had become easy. In a couple more days the pertussis usually had ceased. As a general rule, the children inhaled readily, and far more so than they would have taken medicines. He attributes the little repute this means has hitherto acquired to a mismanagement of the apparatus, and he advises the medical attendant to most carefully instruct the friends of the child in its use.—*Med. Times and Gazette*, Dec. 20, 1879.

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Erysipelas of the Lung.

The doctrine of metastasis is not dead. If anything, it has risen again of late years into a position almost as high as that it occupied at the very dawn of medicine. Of all diseases in which this doctrine has been applied facial erysipelas stands foremost. Its acutely spreading nature, its frequently rapid subsidence, coinciding with grave constitutional or visceral complications, must always have laid it open to be so interpreted. Of all its complications, meningitis and pneumonia stand foremost. It is true that the supervention of each of these, with a fading cutaneous inflammation, might be accounted for by a continuity of inflammation along contiguous parts. But there is often no evidence of this, and "metastasis," the mysterious *Deus ex machinâ* of medicine, is held to be the cause of the rapid change in the locality of the inflammatory process. We all know how fond the "ancients" were of this explanation for many inscrutable facts of disease; we know how the laity of the present day cherish the same views, and even, it must be confessed, how the profession itself is compelled occasionally to adopt them.

A recent careful contribution to the subject—one more step attempted for the dispelling of metastasis—is furnished to the *Revue Mensuelle* for September by Dr. STRAUS. After a brief historical review, in which he points out the paucity of writings upon a form of pneumonia which could strictly be called erysipelatous, he relates the following case: A young journalist, twenty-six years of age, muscular and robust, neither addicted to alcohol nor the subject of syphilis, was attacked with facial erysipelas on March 10. He was admitted into the Menil-montant Hospital, under the care of Dr. Straus, on the 15th, by which time the eruption had extended all over the face and was invading the scalp. On the 17th defervescence began; the eruption ceased to spread; desquamation set in, but there was great prostration. Six days later he had pain in the right side of the chest, without any rigor, and cough without expectoration. On the 24th there was acute fever, sore throat, injection of tonsils and fauces, impaired resonance, and pneumonic crepitation at the base of the right lung. On the 25th the throat condition was worse, and the pneumonic signs had extended, and on the 27th he died.

It must be confessed that reading the case thus it seems most readily explained on the ground that he had been attacked with pneumonia during convalescence from erysipelas; that there was no direct causal relation between the latter and the former; that the supervention of the lung disease was a coincidence. But Dr. Straus does not think so. Clinically the insidious onset of the pneumonia, its rapid extension, and the absence of any other exciting cause, led him to think it depended on the erysipelas itself. He holds this to be borne out in a striking manner by the results of the *post-mortem* examination. The face was livid, not swollen. There was a thick, grayish coating to the tongue and palate; the pharyngeal mucous membrane was bright red—an appearance ceasing abruptly at the œsophagus. The right lung was hepatized throughout, the extreme apex alone being crepitant. All the rest of the organ presented a grayish but not very granular surface on section, studded with small reddish islets. The left lung was congested. The larynx was normal, but the tracheal mucous membrane, from the third or fourth rings downwards, was of a bright scarlet colour, contrasting markedly with the pallor of the laryngeal mucosa. Below, this vivid injection ceased at the level of the left bronchus, and did not occur in any of its divisions, but it continued throughout the right bronchus even to its smallest branches. There was no exudation. The redness was seen to be due to very fine vascular injection; it was much more intense than usually seen in pneumonic

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lungs, and was most marked opposite to the interannular spaces. Microscopical examination of the affected lung showed a notable absence of fibrinous moulds and filaments, as in ordinary croupous pneumonia; the alveoli were stuffed with leucocytes, mingled with swollen multinucleate epithelioid cells; and the trabeculæ and interlobular septa were also greatly infiltrated with inflammatory cells. The absence of fibrin was as marked in the red as in the gray parts of the hepatized lung.

All these characters point, the author thinks, to the pneumonia being peculiar, and produced by the direct extension of the erysipelatous inflammation along the respiratory tract—that, in fact, he had to deal with a true "erysipelas of the lung." The curious thing is that the laryngeal mucous membrane should have so wholly escaped, if this view be correct; for, in the first place, had it been attacked, it is likely that œdema of the glottis would have carried off the patient before the process could have reached the lungs, and, in the second place, its exemption would be strange indeed, and would cause one to fall back on the doctrine of metastasis, which the author has sought to avoid. A third hypothesis propounded by the author is that the larynx was affected in so transitory a manner that no trace of its involvement remained after death. This is conceivable; only opposed to it is the fact that there were no clinical phenomena to bear out the idea of any laryngeal trouble whatever. So, as to this case, it must be left undecided whether the pneumonia were a mere coincidence in the convalescence of facial erysipelas, whether it were an extension of the erysipelatous inflammation directly from the skin to the lungs, or its indirect conveyance through the medium of metastasis, the pulmonary inflammation occurring on the retrogression of the cutaneous. These are interesting speculations, open to further examination before it is finally concluded that there is such a disease as "erysipelas of the lung."—*Lancet*, Nov. 8, 1879.

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On Operation for Empyema in an almost Moribund Patient, followed by Recovery.

M. Moutard-Martin (*Revue Médicale*, Nov. 1879) was called in to consult in the case of a little girl, aged 5, who eight days previously had been attacked with pleuro-pneumonia. He found the patient in a very serious condition. Her face and lips were blue, the cheeks pale, respiration incomplete and jerky, and the pulse was no longer perceptible. There was general anasarca, and the left side showed signs of effusion, filling the whole pleural cavity. It was doubtful whether any action should be taken, or whether it was not too late, and risk would be incurred of seeing the little patient succumb during the operation. M. Moutard-Martin, however, resolved to operate, and he performed paracentesis, which gave issue to a litre and a half of purulent liquid. The child did not die on the spot as was expected. Two days afterwards, as she had slightly improved, a very small quantity of pus was evacuated, because the cannula had become blocked up. On the third day all the unfavourable symptoms became aggravated; the spark of life which still remained seemed about to be extinguished, and complete asphyxia seemed imminent. One resource remained—the operation for empyema. The same serious difficulty now cropped up as in the first instance, but in accordance with the wishes of the family of the patient, M. Moutard-Martin wished to perform the operation for empyema, and incised the eighth intercostal space. The patient felt absolutely nothing, so far advanced was the asphyxia, and a tube was inserted into the pleura. The operation was followed by a veritable resurrection; the general condition improved and soon became quite satisfactory. The appetite returned, and increased to such an extent that the child could not be satisfied; the quantity of pus gradually but surely dimin-

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ished, and M. Moutard-Martin gave up his patient in a state promising complete recovery. M. Féréol has observed an analogous case in another child, who was diagnosed as being attacked with tuberculous meningitis, and who seemed *in extremis*. An opening for empyema was about to occur spontaneously under the clavicle, when M. Féréol saw the patient. A purulent sac had been there formed which threatened to open speedily. M. Féréol performed the regular empyema operation, and the child was saved.—*London Med. Record*, Dec. 15, 1879.

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On Primary Suppurating Myocarditis.

M. FÉRÉOL reports (*Union Med.*, 1879, Nos. 27 and 28) the case of a cook, aged 44, who twelve years before had had intermittent fever, but had been otherwise healthy, until fourteen days before admission, when he was taken with sharp transient pains in the middle of the chest. On admission there were extreme dyspnœa, slight enlargement of the heart, very energetic cardiac action, without alteration of sounds, scarcely perceptible, but very rapid pulse, fine crepitant râles at the bases of the lungs posteriorly, no dulness, some bloody sputa. The heart-sounds became feebler, the stools dysenteric; œdema and cyanosis of the lower extremities set in, and the patient died on the 7th day. The necropsy showed slight enlargement of the left ventricle. In its muscular wall, near the slightly clouded or thickened endocardium, were numerous circumscribed abscesses with hemorrhagic peripherics about the size of a pin's head, most numerous at the apex, where the endocardium was covered with old clots, containing purulent masses in their centres. In the aorta there were fresh patches of endarteritis side by side with old atheroma. There was atheroma in other arteries, but not in the coronary arteries. There were no embola or infarcts. The lungs were hyperæmic; the spleen was not enlarged, its capsule was thickened. Microscopical examination showed purulent infiltration between the muscular fibrillæ around the abscesses, and a peculiar degeneration of the fibrillæ, which became bright shining, not staining with picrocarmine, and showing a double contour.—*London Med. Record*, Dec. 15, 1879.

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On Aneurism of the Aorta in a Syphilitic Subject.

A man, aged 48, had aneurism of the aorta and a swelling on one tibia. Death occurred from the bursting of the aneurism opposite the head of the pancreas. Under antisyphilitic treatment the tibial swelling had diminished. The morbid specimens were shown by M. VALLIN, at the Société Médicale des Hôpitaux (*L'Union Med.*, June 19, p. 24, 1879), and gave rise to a discussion on the relation between syphilis and aneurism. M. Fournier considered it demonstrated beyond doubt that aneurism might result from syphilis, not strictly as a syphilitic lesion, but as a consequence of lesion of the walls of the vessel developed by syphilis. Syphilis ought assuredly to take a place in the etiology of aneurism, but in what proportion of cases was not yet known. The non-success of remedies was no argument against this view, because aneurism, once formed, was an accomplished lesion, just as was a perforation of the palate, upon which we could not expect medicines to have any effect. M. Cornil said syphilis had a great deal to do with arteritis, but when an aneurism had once formed, specific treatment was powerless.—*London Med. Record*, Dec. 15, 1879.

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On Local Temperatures in Diseases of the Abdomen.

Prof. PETER, in continuation of his investigations on morbid local temperatures (see *Monthly Abstract*, 1879, p. 443), communicated to the Académie de Méde-

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cine (*Gaz. Médicale*, Dec. 13) the first part of a paper "On Morbid Local Temperatures in Diseases of the Abdomen."

It results from these investigations that in ascites the temperature of the abdominal wall does not rise, but continues at about 35.5° Cent. (which is the normal mean, and sometimes even falls below this). Prof. Peter criticizes the language of those who give the name of ascites to the serous effusion of chronic peritonitis, this effusion being not dropsical, but inflammatory, as is demonstrated, amongst other circumstances, by the excess of fibrin which it contains. Contrary to what is observed in ascites—that is, dropsy of the peritoneum—*chronic phlegmasias of this membrane raise the temperature by one degree or more.* Prof. Peter gives as examples three cases of different types of chronic phlegmasia of the peritoneum —1. Simple chronic peritonitis radiating from a chronic phlegmasia of the stomach (sclerous gastritis); 2. Chronic tubercular peritonitis; 3. Chronic cancerous peritonitis. In the first case the local temperature of the abdominal wall was raised by 0.8°, when that of the axilla was lowered by 0.5° (the temperature of inanition)—so that the absolute local super-elevation amounted to 1.3°. In the tubercular peritonitis the super-elevation varied from 1° to 1.9°, and presented the remarkable peculiarity that, during the last hours of life, the axillary temperature was lowered by 2.5° (to 34.5°), the local temperature being still elevated 1° above the normal (36.5°) of the abdominal wall—exceeding absolutely that of the axilla by 2°, and being relatively greater by 3.5°; proving the existence of morbid thermogenous centres, the local temperature of which is so far independent of the general temperature that it may be superior to it. In cancerous peritonitis the local super-elevation varied from 0.8° to 2°. In a fourth case (of tubercular peritonitis, which was mistaken for a hysterical tympanites) the super-elevation varied from 1° to 1.5°, and was one day 0.4° higher than in the axilla.

Thus, in a clinical point of view, this super-elevation of local temperature in chronic peritonitis furnishes a new means of diagnosis between chronic peritonitis and ascites, in which the temperature remains normal. With respect to general physiology, ascites does not raise the normal temperature because it is a mere physical fact—the filtration of the serum of the blood through the distended walls of the veins; while chronic phlegmasia *always raises this local temperature*, because there is here a dynamic act, a process—the secretion of a fibrinous serosity. Whence it follows that, in pathology as in mechanics, whenever there is work accomplished there is caloric disengaged, which disengaged caloric, representing a process accomplished, may become a means of diagnosis of this process. This idea of morbid work done need not be confined to the secretion of an inflammatory morbid product, but may be extended to genesis of a neoplasm (tubercle or cancer), and to the evolution of this—the caloric disengaged on this occasion revealing the origin and the phases of the evolution of this neoplasm.

M. Hillairet observed that he had made some investigations on local temperatures in disease of the skin, but had abandoned them in consequence of the considerable differences he had observed in the results. He wished to know what thermometer Prof. Peter employed. In reply, Prof. Peter said that he used the ordinary thermometer, which always gave him very exact results. He regarded it as preferable to the discoid thermometers employed in England, which have the inconvenience of not being able to be applied in the intercostal spaces. There are other instruments of great precision, but of difficult employment. M. Noel Guéneau de Mussy spoke favourably of the thermometer employed by Dr. Seguin of New York.—*Med. Times and Gazette*, Dec. 20, 1879.

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Diseases of the Stomach.

M. LEVEN, the chief physician to the Rothschild Hospital in Paris, in his recently published work (*Treatise on Diseases of the Stomach*), which is based on very extensive clinical researches, and on numerous physiological experiments, formulates some novel theories, which are of considerable importance, from the clinical and therapeutic points of view. With regard to the physiology of the stomach, for instance, M. Leven admits, and seeks to establish by his experiments, that the function of the stomach is much more mechanical than chemical. If the aliments be liquid, they are almost immediately driven by the contractions of the stomach as far as the intestines; if they be solid, they are simply then chymified; that is to say, transformed into a semiliquid mass, able to pass into the intestines, which is the true centre of digestion of nitrogenized elements like fecula and fats. Neither peptonization nor absorption takes place in the stomach. The function of the stomach is the same with regard to all kinds of food. With regard to the secretion of the intestine, M. Leven also postulates a totally new theory, since he believes that the intestinal juice has an acid reaction similar to that of the stomach, and not alkaline, as the physiologists assert. This difference is connected with the fact that in the experiments, which are destined to yield intestinal juice, purgatives are used, which bring on a very acute congestion of the mucous membrane, and consequently an exhalation, which is nothing else than the serum of the blood, with its alkaline reaction—a fluid analogous to that which would be obtained by a veritable traumatic irritation of that mucous membrane. From this way of looking at the physiology of the gastro-intestinal apparatus, there also arise great differences in the appreciation of the nature of the diseases of the stomach, and especially of dyspepsia, which includes them all. Dyspepsia, in fact, is no longer in any case a functional trouble, a neurosis of the stomach, but is characterized by congestion and inflammation of the mucous and underlying membranes, such inflammation being capable of producing degeneration of the mucous membrane, sclerosis of the septa of the vessels, and hypertrophy of the submucous cellular tissue. In so considering dyspepsia, gastralgia, which is mixed up with it, and is naught else than dyspepsia with painful crises, must not be dissevered from it. Ulceration is only an accident, a complication of chronic dyspepsia. Cancer itself may follow the same affection. Hereditary cancer, which comes on at once, alone presents a different origin, the result being that all diseases of the stomach, the last-named form of cancer excepted, are reduced to one morbid species, dyspepsia. It will be recognized that Dr. Leven's theory approximates greatly to that of Trousseau, who recognized the effect of a gastritis in every dyspepsia. The therapeutic conclusions are, however, absolutely different, for, according to him, the proper treatment of diseases of the stomach consists, above all things, in regimen and hygiene, medication only playing a secondary part. M. Leven also is absolutely opposed to the opinion of Trousseau, that dyspeptic patients are the best judges of the food which agrees with them, and which they can digest. He affirms, on the contrary, that it is extremely important that the medical attendant should direct the regimen of his patient, and superintend his mode of life. He therefore lays great stress on this part of therapeutics, as well as on the etiology of dyspepsia. In this portion of the book, which is evidently destined to give rise to much criticism, the practitioner will find many useful suggestions.—*London Med. Record*, Dec. 15, 1879.

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On Diffuse Phlegmonous Gastritis.

DELLINGER records (*Deut. Arch. f. Klin. Med.*, Bd. xxii.) the following case of diffuse phlegmonous gastritis: A pensioner, aged 53, a great brandy drinker, was taken ill three days previously with severe rigors, followed by fever (100.4 to 104.5 Fahr.), frequent vomiting and continual diarrhœa. The epigastrium was distended and very tender. After a few days there were great resistance in the gastric region; increasing loss of strength; delirium; some more rigors one day before death, which occurred on the eighth day. At the necropsy the wall of the stomach was found much thickened. The mucous surface along the fundus and the great curvature was perforated like a sieve by small losses of substance, out of which thick yellow pus could be squeezed. On section through other parts of the stomach, in some places diffuse purulent jelly-like infiltration, in other places submucous abscesses as large as hazel-nuts, were present. The chief part of the infiltration was between the mucosa and muscularis, but in many places involved the muscular and even the subserous tissue. Besides these lesions there were commencing liver cirrhosis and chronic gastric and intestinal catarrh. In some parts of the gastric peritoneum there were thin fibrinous false membranes. In respect to the diagnosis, he lays stress on (1) the fever and general symptoms; (2) the nature of the pain in the stomach, which, unlike peritonitis, was not increased by movements; (3) the increased resistance in the epigastrium. His second was one of gastritis phlegmonosa circumscripta. A woman, aged 32, was taken ill with rigor, fever, pain in the stomach, and vomiting. In the epigastrium, which was at first only painful on pressure, resistant, and distended, a tumour as large as a fist developed, which disappeared, after the patient at the twentieth day vomited up a quarter of a litre of bad smelling, yellowish-white blood-streaked pus, with a feeling as if something was torn in the stomach. Very rapid convalescence followed. The patient had complained of gastric pain a year before, so it is possible that there may have been an ulcer, which led to the formation of the abscess.—*London Med. Record*, Dec. 15, 1879.

Lesions of the Peritoneum in Drunkards.

Prof. LEUDET, of Rouen (*Gaz. Hebdom.*, Dec. 5), read a paper on this subject at the recent Montpellier Congress, and arrived at the following conclusions: 1. Persons who abuse alcoholic drinks may become the subjects of ascites, which comes on without marked symptoms and without prior notable derangement of health. 2. Such ascites is susceptible of prolonged arrest, and perhaps even of a definite cure. 3. The chronic peritonitis of drinkers may come on slowly without any grave symptom. 4. It seems frequently to be the result of a slow irradiation of lesions of the digestive canal, such as gastric cirrhosis, with or without ulceration, or of enteritis. 5. Chronic peritonitis may induce inflammatory recrudescences of the peritoneum, general or partial effusions, or intra-peritoneal hemorrhage.—*Med. Times and Gazette*, Dec. 13, 1879.

Surgery.

Methods of Transfusion.

At a recent meeting of the Obstetrical Society of London (*Lancet*, Dec. 13, 1879) Mr. E. A. SCHAFER, F.R.S., presented a report of an experimental inquiry into the methods of transfusion. The first part of the inquiry was to

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ascertain whether any other fluid, such as milk, could with advantage be substituted for blood in transfusion. Numerous experiments were made on this point, with the co-operation of Mr. G. F. Dowdeswell. It was found that rabbits generally died within twenty-four hours if ordinary milk was injected into their veins, even in small quantities. The blood-corpuscles became disorganized, and the blood swarmed with bacteria. Milk which had just been boiled, or which had been drawn direct from the cow's teat into a previously superheated vessel, was innocuous. Dogs and cats resisted the action of septic organisms in milk. In animals reduced by bleeding to an almost lifeless condition, the injection of milk into the bloodvessels was sometimes, but not always, followed by temporary rise of blood-pressure, but there was never any permanently beneficial effect. Such animals always died. These results are confirmatory of those of Howe and Dupuy in America. It was next explained that no fluid lacking hæmoglobin could be expected to be of benefit in cases of acute anæmia.

The question next to be determined was whether the blood of any other animal could be used for transfusion in cases of depletion of the human subject. This question is answered in the negative by the results of the microscopical examination of mixtures of human blood with the blood of the lower animals. As Landois and others have already shown, sooner or later the red blood-corpuscles of one or of both kinds of blood become dissolved. Moreover, the white blood-corpuscles cease their amœboid movements, and are soon killed. Sometimes the solution of the colouring matter of the blood-corpuscles occurred in a few minutes, sometimes not for some hours. At any rate the action of the blood or serum of the lower animals is by these experiments proved to be an actual poison to the human blood-corpuscles, and would probably be the same to the living cells of the tissues. Moreover, it was found that dog's blood could not be transfused to any great extent into a cat in place of the animal's own blood, or lamb's blood into a dog, without fatal consequences. The result of these experiments, then, is to prove that *in man only human blood can be used with advantage for transfusion*.

It was next sought to determine the best method in which transfusion can be effected, and especially if it were possible to transfuse arterial blood into an artery towards the heart. The great advantage which such a method must present is pointed out by Blundell, who, in one passage in his "Researches," gives as a reason for recommending such a course that the circulation through the coronary arteries is at once renewed, and the heart thereby strengthened. Numerous experiments were accordingly made upon dogs and cats with the object of testing the result of such a mode of transfusion and its applicability to the human subject. In these experiments an animal was first depleted of blood until arterial pressure had sunk almost to zero, and one of its arteries (femoral) was connected, by glass canulæ and simple india rubber tube filled with carbonate of soda solution, with the artery of another healthy animal. The connection was in every case followed by a recovery of the depleted animal almost magical in its rapidity and extent. It was found that a flow of one minute's duration was generally enough to restore the patient, and further that there was little or no danger of the flow of blood from the donor being excessive, for the pressure in the arterial system of the recipient speedily became equal to that in the donor. Out of many experiments of this nature in only one was the ultimate result unsuccessful, death occurring on the seventh day from secondary hemorrhage. But in this case the animal was unhealthy (skin disease) at the time of the operation.

It was pointed out that the ordinary risks of transfusion, such as the introduction of air or clots into the veins, and the supervention of phlebitis, are absent from this operation, and that it has further the advantage that no apparatus is

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required beyond a simple tube, and that the blood is at once introduced into the situation where it is most needed—viz., the arterial system. The difficulties that are presented by the use of arteries for transfusion were not lost sight of, but it was insisted on that the very general fear of dealing with arteries is in great measure unfounded; especially if a minor artery is employed. In the human subject it is recommended that the dorsal artery of the foot should be used both to yield the blood and to receive it. The exact method in which the operation is to be performed was described, and the tubes and canulæ recommended were exhibited.

The details of the experiments on transfusion, and especially of transfusion from vein to vein, instead of from artery to artery, then followed. These showed that transfusion from vein to vein, through a simple india rubber tube with glass termini previously filled with carbonate of soda solution, was both easy and, except in extreme cases, in which the heart had almost ceased to beat, rapidly effectual. It was found that the intervention of an elastic pump, as in Aveling's apparatus, did not accelerate the flow, but in some cases stopped it by sucking in the wall of the vein, and was, moreover, liable to force clots into the patient's vein. And it was pointed out that there is no object in measuring the amount of blood which flows except by the effect produced upon the patient and the donor.

Finally it was recommended, as the result of these experiments: 1. That fluids other than human blood should never be used for transfusion in cases of hemorrhage. 2. That transfusion should always, if possible, be effected through a simple flexible tube with glass canulæ. 3. That direct centripetal arterial transfusion should, if possible, be employed. 4. That failing any person willing to submit an artery to yield the blood, but ready to allow of the exposure of a vein, direct venous transfusion be employed. 5. If it is impossible to attempt either arterial or venous direct transfusion, immediate transfusion of either unwhipped or whipped blood collected into a funnel and allowed to flow through an india rubber tube and glass canula into a vein can be tried, although with greater risk of the introduction of clots and of the germs of putrefactive bacteria into the vascular system of the patients.

The President, Dr. Playfair, expressed his sense of the great value of the report. At the same time he felt that there were great difficulties in carrying out direct transfusion, especially the arterial. The objection to opening an artery, and the state of general confusion of a household at the time transfusion was required, rendered it extremely difficult.

Dr. Hicks agreed that it was impossible in many cases to effect direct transfusion, and asked if saline solutions (such as of phosphate of soda), used to prevent the blood to be transfused from coagulating, rendered people more liable to hemorrhage after its use.

Dr. Champneys stated that the effect of transfusion of lamb's blood in persons suffering from exhausting disease at Dresden were blushing, dyspnœa, hæmaturia, and, in some cases, urticaria. No fatal cases occurred.

Dr. Aveling objected to arterial transfusion, preferred venous, and advocated elevation of the limbs and buttocks, with lowering of the head.

Dr. Cory had transfused three times—twice with saline solution, both died; once by Roussel's apparatus, and the case recovered.

In reply, Mr. Schafer pointed out the danger from using defibrinated blood, acknowledged the difficulties of direct transfusion, and stated that the blood might be prevented from coagulating by mixing with it saline solutions, but the transfusion of such a mixture would prove fatal.

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Section of the Ciliary Nerves for Sympathetic Ophthalmia.

The origin of sympathetic ophthalmia is still a matter of discussion; it is, however, generally referred to the irritation of the ciliary nerves, and not to that of the optic nerve. According to the *Journal de Médecine et de Chirurgie Pratiques* for December, 1879, M. ABADIE has consequently come to the conclusion that by destroying by section the influence of these nerves, he would arrive at the same result as by enucleation of the eyeball. He has obtained this result in a good many cases. The section of the ciliary nerves did not modify the state of the eyes when the cornea was transparent; in the other cases, the patient tolerated the presence of an artificial eye, and sympathetic ophthalmia has thus been arrested.—*British Med. Journal*, Dec. 27, 1879.

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On the Pathology and Treatment of Detached Retina.

Dr. F. MORANO (*Giornale Internazionale delle Scienze Mediche*, n. s. Anno 1, fascic. 9, p. 959) enters into the subject at considerable length. He considers that the researches of Ivanoff, Poucet, and Raehlmann have conclusively established that detachment of the retina can arise from several distinct causes. Choroiditis is perhaps the most common, but partial or total liquefaction of the vitreous body in progressive myopia is also another. He believes that, so long as the vitreous body is unchanged both in volume and physical properties, its detachment by the formation of a layer of fluid between it and the choroid is impossible. Detachment of the retina will always be found to depend on *distension*, that is on some *vis à tergo*, never on *attraction*, or *vis à fronte*, except, perhaps, in the case of an intra-ocular tumour. As regards treatment he reviews the various methods of puncture through the sclerotic, with evacuation of the fluid, as suggested by Siebel, of laceration and of drainage. The first of these has, on the whole, given the best results. The last is both dangerous and inefficacious. In the author's opinion, in recent cases of detachment, medical is of far greater importance than surgical treatment. He advises the use of the artificial leech, coupled with absolute repose of the eye in a dark room, a compress bandage, and mercury to salivation, with subsequently, if necessary, a course of iodide of potassium. One case so treated recovered in four weeks sufficiently to read No. 7 of Wecker's test-types.—*London Med. Record*, Dec. 15, 1879.

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On Osteogingivitis Gangrænosa Neonatorum.

KLEMENTOWSKY describes under this name three very similar cases, the first he ever met with during twenty years' practice among children, in the Foundling Hospital at Moscow. CASE I. A boy, aged six days, well nourished, healthy, was taken ill with high fever, and an erysipelatous flush on the right cheek. The following day the latter had disappeared, but an œdematous dark swelling had appeared on the gums of the right upper jaw. Towards night two teeth broke through the swelling, and fell out; the swelling diminished in size; ulceration set in four days later, and the child died. At the necropsy gangrene of the upper jaw and pyæmia were found. CASE II. A girl aged one month and a half, badly nourished, had high temperature, and a small gangrenous abscess on the gums of the upper jaw on the left side. On the second day, a tooth broke through the abscess and fell out, the swelling diminished, the temperature rose, and a gangrenous abscess formed on the right side of the upper jaw. On the fourth day it began to heal; on the fifth, peritonitis set in; and on the sixth, the child died. The necropsy revealed purulent gingivitis with ulcerations, and diffuse purulent peritonitis. CASE III. A boy, aged thirty-eight days, well nourished,

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had gastric catarrh a short time ago. There was high temperature, with a purple swelling of the size of a nut on the gums, corresponding to the right upper eye-tooth. On the second day a tooth pierced the tumour, and fell out; was replaced by a dentiform granulation surrounded by necrotic tissue. On the third day the swelling and granulation diminished, and suppuration set in. The wound healed during the following days; but on the fourth the temperature again rose, and a hard reddish swelling appeared on the left side of the gums, corresponding to the upper molar teeth. No pus escaped on incision. During the following days necrosis set in, the swelling beginning from the edges of the incision, gradually exposing a tooth and the bone in the alveolus. There were fetid suppuration, and a gangrenous perforating abscess of the left cheek. Death occurred on the forty-seventh day. At the necropsy it was found that the two posterior thirds of the left half of the upper jaw had become one gangrenous cavity, the periosteum was detached from the zygomatic bone, and the latter was necrotic.—*London Med. Record*, Dec. 15, 1879.

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On Certain Methods of Improving Vision in Cases of Detached Retina.

Dr. FANO (*Journal d'Oculistique et de Chir.*) suggests that, as detached retina is practically an incurable affection, it would be more rational to direct treatment to utilizing for purposes of vision any portions of retina still remaining unaffected. With this object he recommends making an artificial pupil opposite any existing healthy portion. In cases where one eye is completely, and the other partially, blind from this affection, he would combine a tenotomy with an iridectomy, there being, under the circumstances, no danger of causing diplopia. Much good, he thinks, might also in many cases be done by the judicious use of prisms. Various prisms should be tried in succession, until one has been found which makes the rays of light fall on the most percipient portion of retina. It should then be worn permanently. If necessary, the treatment by prisms may be combined with an iridectomy or a tenotomy, or with both.—*London Med. Record*, Dec. 15, 1879.

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On Injections of Chloride of Zinc in Ranula.

For some years past M. LE DENTU (*Journal de Méd. et de Chir. Pratiques*, Nov. 1879) has studied and endeavoured to determine the indications for, and the method of, operation in treating ranula by injections of chloride of zinc. Three years ago he was deputed to make a report on this plan, as recommended by M. Théophile Anger for ranula and hygroma. The method appeared to him to be excellent for the latter affection, but less adapted to the former, in consequence of the violence of the inflammation it might bring on. It is with the object of avoiding this complication that M. Le Dentu has endeavoured to exactly determine the conditions under which this operation should be performed. The solution employed is the deliquescent chloride of zinc, which is transparent in its upper strata, and turbid at the bottom of the vessel. The instrument used is a syringe of gutta percha, which cannot be injured by the liquid. The injection also is very easily made. The canula should be introduced to a certain depth. Immediately a sensation of heat is produced, which soon irradiates and spreads throughout the mouth. The syringe is removed, and a small white spot is seen at the point of puncture. The quantity of liquid injected should never exceed two drops, and should sometimes be less. In a short time the burning sensation extends to the side of the face, and is replaced by neuralgic pains. It may also take on the character of inflammatory pain, and give rise to dysphagia. Sometimes even there are respiratory troubles, which proves that the œdema may ex-

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tend to the opening of the larynx. The swelling takes two or three days to attain its maximum, and may then be of considerable proportions. At this crisis the patient may suffer positive anguish, but after the third day only a small amount of inflammatory induration at the level of the ranula remains. The swelling, which still persists, disappears gradually, and the original tumour disappears completely. These are the principal phenomena noted after operation. M. Le Dentu has performed it six times under the following conditions. The first patient was a woman having a tense elastic but depressible ranula. Two drops of chloride of zinc were injected into the tumour, and the result was a very acute and even alarming reaction, causing apprehension of some complication. However, none occurred, and the patient was radically cured. In the second case the patient had already been operated on, and the tumour had again made its appearance. One drop and a half injected into the ranula, which was small, did not induce any reaction, but only a little pain and swelling of the region. Cure in this case also was complete. In another case a woman, aged twenty-two, had a very full and tense tumour. With two drops of chloride of zinc the reaction was extreme; dysphagia and even dyspnœa were produced. Nevertheless, cure was effected, as in the other cases. A ranula developed itself in a girl, aged ten, and opened itself every week by the same orifice. A drop and a half brought on only an ordinary reaction, such as is desired in all cases, and was followed by cure in ten days. Finally, in two cases in which small ranulæ were present, half a drop only was injected. A small unimportant sphacelus was produced, which in no way hindered the cure. From his observations, M. le Dentu concludes that the injection of chloride of zinc into the ranula constitutes an almost infallible method of cure, but of which the handling exacts certain important precautions. The reaction in fact is variable, according to the cases, and probably has reference to the previous condition of the sac. The tension of this sac appears to have a great deal of influence on this result, and in the cases in which it was very pronounced reaction has been the most marked, so that it may be questioned whether it is not indicated to relax the sac, by previously removing a certain quantity of the liquid contained in it. It is equally important to define the quantity of chloride of zinc to be used for the injection. A drop or half a drop is sufficient for small ranulæ. In tumours of a medium size a drop and a half, and in fully developed ranulæ two drops are the maximum, which should never be exceeded. In children especially only very small doses should be used, because the serious phenomenon of reaction are more to be feared than in adults.—*London Med. Record*, Dec. 15, 1879.

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Cancer of the Breast following Eczema of the Nipple.

At a late meeting of the Clinical Society of London Mr. G. LAWSON reported the case of a married lady fifty-one years of age, who consulted Dr. Tilbury Fox in July, 1878, for a chronic eczema of the right breast, which she had had for several years, but which had not healed. Dr. Fox asked Mr. Lawson to see the case, for fear there might be evidences of cancer, but at that time the gland itself was unaffected; the nipple, however, was slightly retracted; the axillary glands were not enlarged. Twelve months later the patient came again, and now the breast was large and hard, and there was an enlarged gland in the axilla. Sir James Paget, who was consulted, concurring, Mr. Lawson removed the breast and lymphatic gland; the wound healed rapidly, and at the end of three weeks the patient returned home. There has been no recurrence hitherto. Dr. Thin, who examined the organ microscopically, found the diseased skin to be sharply limited by a zone in the epidermis; the corium was the seat of chronic destructive inflammation, and the connective tissue of the nipple was infiltrated

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with epithelioid cells; the small portion examined contained no ducts, so that direct continuity of change in them and the gland (which was the seat of well-marked epithelial cancer) could not be traced. Mr. Lawson remarked that the case belonged to the class drawn attention to by Sir James Paget and Mr. Butlin, where eczema of the nipple preceded cancer of the breast. It might be doubted if this so-called "eczema" is indeed a true eczema, owing to its long duration and intractability. In this case (the specimen was shown) the patient had suffered four years from what had been regarded as eczema of the nipple, and that her breast might become the seat of cancer was frequently anticipated. The important practical question was whether in cases of intractable "eczema" of the nipple the breast should be excised, thus anticipating the development of cancer. In one case where an ichthyosis of the tongue had lasted for eighteen years, he had excised the organ, from the knowledge that such a condition almost invariably terminated in epithelioma. On the same principle he also frequently excised an eye which had been dangerously wounded, in order to anticipate the development of sympathetic ophthalmia on the opposite side.

Dr. THIN was, and still is, of opinion that the cutaneous change in these cases is not eczema; a papular or vesicular eruption with exudation did not suffice for the diagnosis of eczema, and in the present case the very sharp line of limitation of the affected patch was against its being an eczema; were it so, there would have been intolerable itching. He did not regard the "eczema" as preceding the cancer, but the contrary. There was evidence of epithelial growth in the lactiferous ducts, and he suggested that the epithelium might remain long affected but quiescent, still, however, causing the production of a certain amount of "cancer-juice," which would produce a distinctive and incurable affection of the skin in the vicinity. To treat such an affection as if it were an eczema was to ignore its cancerous condition. Eventually, however, the change is propagated to the gland itself and to the neighbouring lymphatics.

Mr. BUTLIN said that he was to a certain extent responsible for the use of the term "eczema" in this connection; for Sir James Paget in his paper on the subject had called it an "eczematous condition." It was a raw, excoriated condition of the nipple, which was constantly discharging. In most of the cases he had seen the nipple was in this state. In one case the nipple protruded, was redder than the opposite nipple, and was covered with small scales. It did not discharge from the surface, but was firmer and less elastic than the opposite one. Histologically this nipple presented the same characters as in the other cases, with change extending down the ducts. In the first case he described, he found all the ducts in the nipple full of diseased epithelium, but in others the change was limited to some of the ducts, which could, however, be traced directly down to the cancer in the gland.

Sir JAMES PAGET said that the subject was one of those in which clinical and pathological facts had not yet come to accord. Perhaps it was unwise to give the name of eczema to the condition, for the rule should rather be, if any breast had suffered long from great disturbance of nutrition, it was in risk of becoming cancerous. He said "becoming cancerous," for from the clinical point of view he would differ wholly from Dr. Thin; for there were stages in this disease in which it was curable. Nor do they stand alone; they are examples of a very large group of affections which are liable to become cancerous. Mr. Lawson had referred to one of them—*e. g.*, ichthyosis of the tongue. It would be bold to say that all these were cancerous from the beginning, especially as for periods of three or four years their progress was so slow and hardly observable, and then cancer rushes in. Another group allied to these was that of scars after burns of the lower extremity. If in advanced life these begin to ulcerate, they are very

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liable to become cancerous. So again with syphilitic disease of the tongue, and many more conditions in which cancer was likely to supervene later in life. What the precise changes are—whether the result of a gradual process, or the intervention of some new factor—he could not say; but from the clinical side there was a time in such cases when the disease was not cancerous, and a time beyond which cancer is almost sure to occur.

Mr. HUTCHINSON said they were clearly dealing with the pre-cancerous stage of cancer, and they should feel obliged to Mr. Lawson for his advocacy of prompt and energetic intervention in such conditions. Some years ago he wrote a paper "On the Successful Cultivation of Cancer," to draw attention to the ill that resulted from the use of mild measures. He doubted the wisdom of attempting any very accurate definition of eczema. The important fact was that cancer supervened upon that which clinically and commonly is styled a local eczema. The term eczema did not admit of precise definition; it did not embrace any one clinical group of symptoms. So that it was very probable that in some cases a disease which is a local disorder of the nipple ends in inducing cancer, as the patient advances in years and the cancerous period of life is entered on. And this may be, although some cases (a minority) did recover, and did not issue in cancer; and he thought Mr. Lawson had well put it in saying that if an eczema of the nipple *resists* treatment for a long time, then surgical interference should be had recourse to. He also agreed with Mr. Lawson in his advocacy of early treatment in ichthyosis of the tongue. He had removed such a patch, which to the naked eye showed no evidence of cancer; but it was in the precursory stage, and an experienced histologist, who examined it, reported that carcinomatous elements were present in it.

Mr. H. MORRIS had had two cases under observation which bore out the facts stated. They also presented the clinical history of this so-called eczema of the nipple, and ended with mammary cancer and widespread cancer in internal organs. The duration of the condition of the nipple and areola—in one case five or six years—was far too long to suppose that the cancer in the breast had preceded it, the duration of mammary cancer being seldom more than twelve months. At the same time age should be taken into account; for there had come to the cancer department of the Middlesex Hospital a girl, eighteen years old, who had had ulceration of the nipple and areola. She had been told that it was cancer. It was a very difficult point to know when to advise removal of the breast showing this condition, and just the same difficulty was present in regard to ichthyosis of the tongue. He knew of a man with the latter affection, from which he had suffered for four or five years, but he had not felt warranted in operating. The number of cases at present observed was too small to formulate any rule as to the length of time which this condition of nipple should be allowed to last before it was right to operate. During the last ten years he had seen very many cases of mammary cancer in the cancer department at the Middlesex Hospital. When he was registrar, there was no case in which a history of previous ulceration of the nipple was ascertained; and out of upwards of 500 cases he had seen in the past six years in only two (those he had cited) had this condition preceded the cancer.

Mr. LAWSON, in reply, said that he would content himself with giving the opinion of the late Mr. De Morgan on this subject. On May 15, 1875, he saw a case of "eczema of the nipple" with Mr. De Morgan, who, deeming it to be an epithelial cancer, destroyed it by chloride of zinc. On Dec. 19, 1877, Mr. Lawson saw the patient again, and she had a large bunch of glands in the axilla, which he removed, after consultation with Sir James Paget. The patient was now dying from internal cancer.

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Dr. THIN, in reply, said that he did not mean that the cancer of the mammary gland preceded the skin affection, but that the ducts in the nipple were the seat of abnormal and irregular epithelial growth, which might remain so for years without change. If the diseased parts be removed at this stage, recovery might be assured; but the longer it lasted the more risk there was of the membrana propria of the ducts giving way, and the epithelial growth spreading into the connective tissue and into the gland-substance.—*Lancet*, Nov. 1, 1879.

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On Syphilitic Stricture of the Rectum.

In M. GOSSELIN'S opinion (*Gaz. des Hôpitaux*, Aug. 21, 1879), this kind of stricture is of an inflammatory nature, resulting from fibrous transformation of the submucous cellular tissue, and perhaps also of the mucous membrane itself, following an inflammation of these structures, having its origin in a rectitis caused by chancres of the anus. M. Gosselin calls this "syphilitic rectitis," and also calls the stricture which is the consequence of it "syphilitic stricture," but states that he does not therefore mean that it is dependent on the syphilitic diathesis, but simply that the origin of the rectitis is a chancre, causing inflammation of the anus, which inflammation afterwards extends into the interior of the bowel. As regards treatment, M. Gosselin, till lately, has been content simply to dilate, and in cases of narrow strictures of small extent, to notch them with a bistoury at several points. Now, however, he employs the treatment recommended by Verneuil, which consists in complete section of the strictured parts by Paquelin's cautery. By this means the retention of feces and purulent matter above the stricture is prevented.—*London Med. Record*, Dec. 15, 1879.

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On Bubon d'Emblée.

The term "Bubon d'emblée" means the absorption of virulent pus at a certain point, and its transport to a lymphatic gland without appreciable lesion or solution of continuity of mucous membrane, skin, or lymphatics. M. MAURIAC has never seen such a case, but reports (*Gaz. des Hôpitaux*, June 12, 19, July 1, 31, 1879) three cases which might easily have been mistaken for bubon d'emblée. Case I.—A man, aged 38, was admitted under M. Mauriac's care in November, 1874, with a swelling in the groin, but nothing on the genital organs, and no history of a sore since 1867. The swelling burst and left a large ulcer. No signs of syphilis could be made out. The sore in the groin became so like a chancrous bubo that M. Mauriac diagnosed it as such, supposing that a chancre had existed, and had been so small as to have escaped the patient's notice, and healed before he came under observation. Auto-inoculation, and afterwards cauterization, was ordered; but, through some mistake, the ulcer was cauterized first, so of course inoculation was useless. Iron was given internally, and various applications, including a solution of tartrate of iron, were used locally. Cicatrization took place at the end of a month, and the patient went out. Some time afterwards, the man was re-admitted, as the sore had broken out again. The scrotum also was implicated, and the ulcers became phagedenic. M. Mauriac now thought of syphilis, and prescribed specifics, under which rapid improvement at once occurred. This man, in M. Mauriac's opinion, assuredly became syphilitic in 1867, but the disease had afterwards remained latent. Latent syphilis is not uncommon, and may cause mistakes in diagnosis, as in this case. When in doubt, the repetition of morbid action in the same place, as happened here, may put one on the right track. Case II.—A man, aged 34, had painful swelling in the right groin, which finally burst and discharged much pus, but the opening did not heal. Inoculation gave no result. There was no lesion of any part of the area supplied

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by the lymphatics to account for the abscess. No other glands were enlarged, and there were no signs of syphilis. The man had had chancres six years previously. Gumma of the glands was diagnosed, and mercury and iodide of potassium were given, simple ointment being applied to the sore. In twenty-three days it was almost healed. Case III.—A man, aged 54, who had not had any connection for more than six months, had a swelling in each groin, oblong, red, and fluctuating. No lesion of penis, scrotum, thighs, perineum, or anus could be discovered. In 1875, he had been treated by M. Mauriac for mucous patches of the scrotum and throat. The swellings were incised, and much thick offensive pus escaped. The wounds became phagedenic, and put on exactly the appearance of virulent buboes. Inoculation gave negative results. Under large doses of iodide of potassium internally, and the local application of iodoform, the sores healed completely. The inguinal swellings in this case were perfectly symmetrical. M. Mauriac has frequently observed the symmetrical development of gummatous formations, and was much astonished to find that Mr. Hutchinson regarded asymmetry as a distinctive character of tertiary lesions. M. Mauriac then ably criticizes various cases put forward by different observers as examples of bubon d'emblée, and comes to the conclusion that there is no satisfactory case on record. In a doubtful case, inoculation should always be practised, and, failing that, specific remedies should be tried.—*London Med. Record*, Dec. 15, 1879.

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Soldiers' Feet.

Under the title of "A Special Affection of the Feet in Railway Navvies, and a Tumour of the Feet occurring in Infantry after Forced Marches," Dr. DAWOSKY and Surgeon-Major WEISBACH of the German army describe one and the same affection, observed by the one in navvies employed on the railway, and by the other in foot-soldiers (*Deutsche Militärärtzliche Zeitschrift* and *Archives Médicales Belges*, April, 1879). This affection, characterized by a swelling of the upper part of the foot, with redness and heat, is accompanied by extremely sharp, lancinating, and burning pain. This pain constitutes the initial symptom, and commences at the sole of the foot, whence it spreads towards the middle of the top of the foot, and even as far as the knee and thigh. In navvies, this affection has shown itself more especially in the right foot; in some cases, however, both feet have become involved. In soldiers, Herr Weisbach has found it in both feet, and more especially pronounced and painful along the course of extensor tendons of the second, third, and fourth toes, as well as in the vicinity of the metatarsophalangeal joints of the same toes. Both writers attribute this affection to a change in the position of the foot, brought on in the case of navvies by the necessity of wheeling earth on narrow planks, on which the foot cannot spread itself out completely as in ordinary walking; in soldiers, by fatigue and muscular relaxation. This change has the effect of inclining the foot more inwards and throwing the weight of the body more outwards, thus causing contusion of the heads of the metatarsal bones and strain of the ligaments, especially the transverse ones, twisting them together. This continuous morbid action, becoming permanent, naturally ends by producing inflammation of these ligaments and of the adjacent tendinous sheaths, whence the affection, gradually spreading, soon shows itself in a more definite form on the upper surface of the foot, where the looser cellular tissue is more amenable to œdematous distension. Both authors recommend rest in the way of treatment above all things for the injured organ immediately on the appearance of the initial symptom, pain. Thus, the development of the affection may be arrested. Should it be completely established, M. Dawosky recommends multiplied scarifier irons round the affected portion, and even the opening of the superficial veins to induce a more copious hemorrhage. When

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this has ceased, the patient should remain quiet for several days, and have recourse to cold water bandages if necessary. In the case of workmen who can be carried to a hospital in the vicinity, simple scarifications are replaced by cupping with the scarificator.—*British Medical Journal*, Nov. 29, 1879.

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Perforating Ulcer of the Foot.

ENGLISCH (*Wiener Med. Jahrb.*, 1879, s. 81) has collected 109 cases of perforating ulcer of the foot, independent of those forms of ulceration arising in connection with leprosy, syphilis, and cancer. Five of these came under his own observation. He found that the frequency of this disease increases in regular proportion from the heel to the toes, but in its localization it keeps to the distribution of the bursæ mucosæ on the sole of the foot. So far this localization corresponds with that of callosities, which, however, in no way, as a comparison with ulcers or callosities on other parts of the body shows, imparts to the ulceration its specific character. After Englisch reviews the neuro-paralytic theory of the perforating ulcer, he comes to the conclusion "that it is an inflammatory and ulcerative process, occasioned by a peculiar change taking place uniformly in the vessels, which corresponds to the endoarteritis obliterans of Friedlander or proliferans of Billroth. With reference to the ultimate cause of this endoarteritis, Englisch observes that many authors state how an extreme chilling has preceded the disease, from which the frequent bilateral or symmetrical occurrence of the disease can be explained. Besides, Englisch agrees with Friedlander that, under the influence of the tuberculosis, also, changes of the skin and its vessels can be set up which present similar characters as the perforating ulcer, in particular its markedly chronic course, with a not unfrequently continuous rise of temperature. Englisch can, in relation to the age at which it occurs, well establish a predilection for the fifth decade, but no direct influence of more advanced years.—*Edinburgh Med. Journal*, Dec. 1879.

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On Amputation of the Hand in the Continuity of the Carpo-Metacarpal Joint.

Dr. SILVESTRI proposes (*Med. Contemporanea*, Aug. 1879) a new method of amputation of the hand in the continuity of the carpo-metacarpal joint, to which he gives the name of "the method by double palmar flap." He performs the operation as follows. The hand having been placed in the prone position, an assistant grasps the wrist, and makes the skin tense, while the operator traces a curvilinear incision, with its convexity downwards, through the skin and subcutaneous cellular tissue. This incision should commence and terminate half a centimetre below the tubercles which mark the upper extremities of the first and fifth metacarpal bones. It should include the skin, but not the deeper tendinous masses. The hand is now to be supinated, and a double palmar flap traced out, the external portion of which comprises the hypothenar eminence, the internal the thenar. The starting point of these incisions should be from 20 to 25 millimetres below the fold in the skin of the forearm, which marks the position of the radio-carpal articulation. They should extend downwards to the level of the interdigital fold of the thumb, and comprise the skin and palmar fascia, as far down as the layer of flexor tendons. The hand is now once more pronated, and the knife entered under the extensor tendons, which it divides transversely, commencing with those of the little finger. The cut ends of the tendons are next turned down, and the carpo-metacarpal articulation comes into view. After division of the radial extensors from above downwards, and of the insertion of the abductor longus pollicis, which are the best guides to the line of articulation, the joint may be partially opened on its dorsal aspect by one sweep of the knife.

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The author uses the word "partially" advisedly, as it will be found impossible to dissociate completely the metacarpal bones of the last four fingers. This is owing to the existence of a hitherto undescribed interosseous ligament, which is attached superiorly between the two contiguous facets of the os magnum and unciform, and inferiorly between the two facets of the third and fourth metacarpal bones. It is a fibrous band, filling a longitudinal sulcus, especially designed for its reception. When this ligament has been divided, the joint at once falls open. The final step of the operation is to cut through the two fleshy masses of the thenar and hypothenar eminences, keeping the knife as closely as possible to the bones, and following the lines traced out in the early palmar incisions. The result is a double flap, which when laid over the stump will appear single, and will be found to adapt itself very accurately to the dorsal flap. The wound should be closed with sutures, and a drainage tube inserted in the radio-carpal canal, which will be more or less patulous, owing to retraction of the flexor muscles and tendons. As regards the objections which may be urged against the operation, the chief are (*a*) the difficulty of execution, and (*b*) a greater liability to inflammation and purulent infiltration, due to the presence of so many small bones and articulating surfaces in the stump. As to the former of these, the author holds it has no real weight, except in the case of very old subjects, in whom possibly the articulating surfaces might be ossified. As to the latter, it must be combated by careful antiseptic treatment. The advantages claimed are a greater length of limb, a skin-covering admirably adapted to bear friction or pressure, and a form of stump more suitable for the application of any artificial means of prehension. The memoir is carefully written, and accompanied by five lithographic drawings, which tend very considerably to elucidate the somewhat complicated steps of the operation.—*London Med. Record*, Dec. 15, 1879.

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Excision of Both Hip-joints for Symmetrical Femoral Necrosis.

At a late meeting of the Clinical Society of London (*Lancet*, Dec. 6, 1879), Mr. CROFT read the notes of a case of this in which the operation was performed antiseptically, and with a successful result. The patient, a child four years of age, was admitted into St. Thomas's Hospital on January 3, 1879. Two years previously she had fallen down stairs, and some months later began to limp and suffer from pain in hips and knees. For some time she was treated as an out-patient, but did not improve. She became thin and pale, and the cornea ulcerated; the thighs became flexed on pelvis, and legs on thighs; and in this state she was taken into hospital, when the limbs were straightened, and her health improved. At the end of February evidence of fluid in the left hip-joint was manifested, and some thick puriform fluid was evacuated by aspiration. The effusion re-collected, and on May 17th the left hip was excised antiseptically and subperiosteally. On June 17th the right hip was excised in the same way. The wounds healed in about five weeks from the time of operation. On each side there was extensive necrosis of the neck and head of the bone, the epiphysis being detached. There was also swelling of the synovial membrane.

The case illustrated the value of early operation before the third stage is reached; it showed also the security of antiseptics, the advantage of freely removing the diseased parts, and of leaving the muscles attached to the trochanter. The case was also interesting from its double and symmetrical character. Had not the operation been done early, the case would have gone on from bad to worse, the joints would have become anchylosed, and the chances of death from tuberculosis or amyloid disease would have been great. There was hardly any pyrexia after the operations, an important thing in cases of supposed tubercular disease. He largely attributed the good results to section of the femur through

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undiseased bone, and the destruction of the synovial membrane by chloride of zinc. The glutei were not detached from the trochanter, which has now renewed its attachment to the shaft, thus permitting of good movement and avoiding bony anchylosis.

He had performed excision of the hip forty-five times; twenty-one were instances of necrosis of upper end of femur or of acetabulum. If the surgeon knows there to be dead bone in a joint, he is bound to remove it. He strongly condemned the practice of leaving these cases unexplored, and unrelieved. Cases of a subacute or chronic kind, traceable to injury, probably depended on osteitis, and he would say that when there is fluid in such a joint, an incision should be made antiseptically and the joint explored. When uncertain as to the state of the bone, the surgeon should excise, and if he were sure that necrosis had occurred, he had no other alternative than excision.

Mr. BRYANT said the case opened up the whole question of excision of the hip—as to the value of the procedure, the conditions calling for it, and also the pathology of joint disease. Clearly the case was one of osteitis, to which probably nine-tenths of the cases of hip disease in early life were due; whereas in adults the primary synovial form was more frequent. There could be no doubt as to the propriety of the operation, for whenever necrosis had taken place it should be the rule to operate early. But it could hardly be claimed that in this case the operation was done *very* early. The disease had arrived at a well-marked stage, and its course had been so marked and so rapid that no hesitation about operating could have occurred. He demurred to the operation being styled "subperiosteal." There was necrosis of the head of the femur, disorganization of the capsule of the joint, and the neck of the bone was quite denuded, so that only the trochanter could strictly be held to have retained its periosteum. He felt at a loss to know what surgeons meant by a "subperiosteal" resection under these conditions. The object of excision was to remove the disease. A stiff joint, with anchylosis, would not be a satisfactory result. It might, indeed, be hardly right to try to save the periosteum, if it were possible, and for himself he had often tried, but always failed, to strip off the fibrous covering of the trochanter, and he had come to regard the "subperiosteal" section as a fanciful thing. It would be otherwise if dealing with a normal joint; then a subperiosteal section would be possible. But to remove a healthy head of the femur would be an error. Mr. Croft had urged that when the joint was found to be full of fluid it should be cut down on antiseptically, and if the joint were then found to be healthy the surgeon should go no further. But he (Mr. Bryant) maintained that the joint should not be so treated, but that measures to obtain the absorption of the fluid should be tried. If Mr. Croft meant that they should not cut down into a joint unless there was strong evidence of its containing pus, the question would be different. The bulk of cases being due to disease of bone, resection should follow the incision into the suppurating joint. He followed this practice himself in most cases, but sometimes, when it is doubtful whether there is necrosis, he does not proceed to resection. He would like, then, for some further explanation as to the meaning of an "early incision" in these cases. As to definite stages of the disease, he did not recognize them. A stage of disorganization he knew, and a stage of open suppuration, but to speak of first, second, and third stages was unintelligible to him. The stage differs according to the cause of the disease—*e. g.*, in acute necrosis it runs through its whole evolution in the course of a few days.

As to resection of the hip, he was, as a rule, disappointed with its results. The cases of good result were very few as compared with a large class, in which a crippled limb, not fit for walking was left; and the even larger class already

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doomed by the presence of visceral disease. It might be that surgeons were disposed to wait too long for Nature's processes, and thus cases came to excision too late, when lardaceous disease was already established, and this was a strong argument in favour of early interference. But *when* should the surgeon interfere? He was afraid that "antiseptic surgery" had induced surgeons to operate without necessity; an over-confidence in its safety disposed them to deal with joints too freely, and to resect joints which pathologically were curable. As a surgeon who had lived in the pre-antiseptic period, or rather before the introduction of the protecting spray, he could not help asking himself if some of the cases could not have got well had they been left to nature? He feared that Mr. Croft had fallen into the new system; and he could not but think that Nature was competent to absorb serum effused into a joint.

Mr. HULKE congratulated Mr. Croft on the brilliant result of his case, although he could not assent to his deductions. If there was one lesson to be gained from observation of these cases more than another, it was this—viz., the necessity of giving the joint complete and absolute rest from the time of the very earliest manifestation of disease. The present case was for some months treated as an out-patient, and during that time the joint could not have had that complete immobility so essential for its recovery. He had again and again seen joints suffer from the non-observance of this principle. He believed that disease of any joint in the body in childhood commenced as an osteitis almost invariably. As to operative interference, he would concede its being called for whenever the presence of necrosis extending into the joint could be established, but of that occurrence he knew of no strict indication. He agreed with Mr. Bryant on the question of opening joints when there was a presumption of fluid in them; and even when there was pus he had seen instances (both of knee and hip) where free incisions and thorough rest, as first pointed out by Mr. Gay, resulted in the retention of free mobility to the joint. He also felt with Mr. Bryant as to the general outcome of excisions of the hip-joint; but, of a large percentage of survivals, he knew of few where a useful limb resulted. For, if these cases were watched for a series of years (an observation falling less to the lot of the hospital surgeon than to that of the general practitioner), it would be found that so great a dwarfing of the limb resulted as to render it almost useless. On the other hand, it must be borne in mind that excision was done, not merely to save the limb, but to preserve life. He also felt strongly the cogency of Mr. Bryant's remarks upon "subperiosteal" resection. He had always followed the old rule, instilled into him by his German teachers, to keep as close to the diseased bone as he could, and he did not see how this were possible if periosteum were stripped off the healthy shaft in order to divide this at a point below the disease. He had listened to Dr. Sayre's advocacy of the subperiosteal method, without, however, satisfying himself that the operation described strictly embodied a preservation of periosteum. In conclusion, he thought that the joint in these cases should be very early and completely fixed, and in that way many acute and subacute cases would do well. He recalled one case of *peracute* inflammation, which subsided under these measures and the local application of ice. Early immobilization, then, if practicable; but if the case were taken too late for this, and if, in spite of such immobility, fluid accumulated in the joint, and that, too, pus, free incisions and drainage should be resorted to. He had never seen anything but harm come of the use of the aspirator, for it invariably became plugged with flocculi of concrete pus in these cases. Then, if there be reason to believe that necrosis existed, there was no doubt whatever that the sooner excision was performed the better.

Mr. PARKER agreed with Mr. Hulke in congratulating Mr. Croft on his very

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successful case. It was so successful that there was nothing to which one could take exception as respected that particular case. He could not quite agree with Mr. Croft in regarding it as an early operation, for the child seemed to have been ill two years at least. Mr. Hulke advocated rest, but he (Mr. Parker) had been disappointed in the ultimate result of this plan of treatment. He had now under care in the East London Children's Hospital two or three cases which had continued to progress although complete rest had been given during two or three months, and in one of these cases disease in the other hip had occurred spontaneously during this treatment by rest. Regarding the general question of treatment by operation, it was disappointing that Mr. Croft, out of his abundant material, had not given the Society the benefit of a critical analysis of his results and experience. It would, probably, have contained much useful information bearing on the diagnosis of the various forms of the disease, and to young surgeons such information would have been very valuable indeed. It was just his own difficulty to know when to operate and when not to operate. There was room for a better classification of the cases. Some tended, no doubt, ultimately to recover, while others just as certainly, in spite of all treatments, tended to progress, and it was very desirable to differentiate the cases in order to adopt the most appropriate treatment in each. Out of seven or eight excisions he had found in five instances the head of the bone loose as a sequestrum in the acetabulum. It would be well if those who had large experience would give younger surgeons the benefit of it. Again, he thought that the methods of operation at present in use were not the best, and that a more surgical method might be adopted. By making an incision from the anterior superior spine downwards along the anterior border of the great trochanter, cutting between sartorius and rectus on the inside, and the anterior edges of the tensor and the two smaller glutei muscles on the outside, a patch of the anterior surface of the capsule would be exposed, and no muscular fibres would be cut across; the neck of the bone is to be sawn across *in situ*. This avoids the necessity of forcibly wrenching the femur out of its socket, in order to saw off the diseased portion, a proceeding by which the periosteum was largely separated from the bone.

Mr. HULKE thought for Mr. Parker to have found, in five out of eight cases, the head of the bone as a sequestrum, was a singular experience.

Mr. BRYANT also thought it curious that so large a proportion of such cases should have fallen to Mr. Parker, and that they ought to be recorded.

Mr. HUTCHINSON'S experience as to the rarity of detachment at the epiphysis was similar to that of Mr. Bryant and Mr. Hulke. He had only met with three or four such cases. Again, the condition he had most often found was one of caries rather than necrosis. He agreed with Mr. Bryant and Mr. Hulke as to a general feeling of disappointment at the issue of cases of hip-resection, and he had never been an enthusiast for the operation. He had seen a certain number of failures, and a certain number in which only partial success was obtained; whilst several of the cases, most successful as regards the limb, had died of lardaceous disease, and he agreed that this fact was an argument in favour of early operative interference. At the same time he was quite sure of the success frequently attending milder measures, as Mr. Hulke had shown. Complete rest by plaster-of-Paris bandage, and, if possible, sea-air, also greatly aided recovery. He felt sure that a far larger number of cases would be successfully treated if they could be transferred to the seaside instead of being kept in a London hospital. Counter-irritation was also very valuable, especially in cases where there was fluid effusion. Rest combined with counter-irritation often alone sufficed, and as a counter-irritant he would mention tincture of capsicum, the use of which he learned a long time ago from a practitioner who was little better than a char-

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latan. He also wished to congratulate Mr. Croft on the happy result of his case —one of the most successful he had seen.

Mr. H. MARSH pointed out that the chief interest lay in the question of the value of excision in hip disease, and he could not but agree with Mr. Hutchinson as to the disappointment often accruing from the operation. He had seen about 120 cases of excision, and thought it would be difficult to show six or seven which had turned out really well. Mr. Croft might reply that this was because the operations had been too long deferred, and that they were not performed antiseptically. It might be so, but so convinced was he of the general failure that it was with the greatest aversion he resorted to it. At St. Bartholomew's Hospital it was an operation now rarely performed. Wide conclusions should not be drawn from a single case. If one was fortunate enough to come across a case in which the head of the bone was detached so that it could be removed as a sequestrum, it did not require any division of bony tissue. He suggested that Mr. Croft should show the case again at a later period. He (Mr. Marsh) agreed with those who had said that necrosis was rare, and that caries was the prevailing condition, for in operating, as a rule, it is carious bone that is cut through, and in many cases he had seen operated on it would have been impossible to have got beyond the inflamed bone without dividing the shaft low down. He believed that early recourse to treatment by perfect rest and counter-irritation would be successful in the majority of cases. He could show many cases of hip-joint disease which had recovered, with fair mobility and walking power, after having been widely suppurating. It must be remembered that Mr. Croft's patient was now much in the condition of children who have congenital dislocation of the hips. He differed from Mr. Hulke in his opinion of the aspirator. By using a sufficiently large trocar he had frequently evacuated large accumulations of pus, with recovery.

Mr. CROFT, in reply, said that in speaking of an early operation, he did not mean one undertaken in the early stage of the disease, before there was perceptible effusion. He fully recognized this incipient stage, and had been as successful as others in treating the disease when it came under his notice at that time. The case he had brought did not illustrate the treatment he should pursue in the very early stage. The accident which started the disease had occurred two years before the child's admission into hospital. The divisions adopted by Sayre and others were very useful clinical divisions, although they might not be pathologically accurate, any more than it was pathologically correct to speak of "primary," "secondary," and "tertiary" syphilis. Still it might be said that the first stage of hip disease was that which commenced with the onset of inflammatory signs and ended in effusion; the second, from effusion to the formation of open abscesses; and the third thence *ad finem*. His case, then, was in the second stage. He had confidence in antiseptics, for he held that a system by which a surgeon could extirpate a loose cartilage from the knee-joint, and send the patient out cured in ten days, was enough to inspire confidence; and under the protection afforded by this system the surgeon was fully justified in freely opening into a joint containing fluid. Probably he would find the fluid purulent, and evidences of pulpy degeneration and of necrosis; but if he did not, no harm would ensue. He would indeed have relieved the symptoms, especially the symptom of *pain*. The term subperiosteal was the most convenient he had to describe what was done. He could demonstrate the possibility of tearing out the great trochanter and leaving the whole of the periosteum behind. Of course the term was not applicable to the head of the bone, but it was strictly so to the neck; and if the bone be turned out, leaving periosteum, the removal is subperiosteal. Antiseptic treatment must be complete, or it is nothing. The key to the disappointment

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expressed as to the general results of the operation was, that the operation was not performed early enough. His forty-five cases included four at present in hospital; fourteen sound and well; fifteen had died from one cause or another, two of them from pyæmia (but not since he had used antiseptics), one from diphtheria, and the rest from tuberculosis in one form or another. He did not know of any certain indications of necrosis, and he sometimes aspirated joints to confirm the diagnosis of purulent effusion. He thought aspiration for serous synovitis was often followed by a favourable result. He did not wish to draw wide deductions from one case; and he had already shown that his opinions were based on a larger experience. The child could not yet balance herself on the femora; but he anticipated that, as the periosteum had been left, new bone would form and a kind of joint be reproduced. He would be well satisfied if he had induced some surgeons to operate early in hip disease.

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Attempted Reduction of a Dislocation at the Shoulder-joint of seven or eight weeks' standing; Rupture of a Bloodvessel.

At a recent meeting of the New York Surgical Society (*Med. Record*, Jan. 10, 1880), Dr. H. B. Sands reported the following case. Four weeks previously he was called by Dr. Rockwell, of Brooklyn, to see a lady eighty-six years of age, who, seven or eight weeks previously, had had her right shoulder dislocated downwards. She was seen by a gentleman in Connecticut soon after the accident, and he reduced it without special difficulty. About ten days afterwards the dislocation was reproduced, and then nothing was done towards placing the head of the bone in position until she came to Brooklyn, when Dr. Rockwell made a slight attempt to restore it to its place, but without success. Dr. Sands was asked to give an opinion regarding the propriety of making an effort at reduction, and he said that he regarded it as dangerous, and advised against it, but that if the friends and the patient desired, he would make a moderate attempt to put the bone in place. The lady expressed her desire and willingness to have something done; so she was anæsthetized with ether, and what he regarded as a very moderate effort to reduce the dislocated bone was begun by putting the left hand in the axilla, while with the right, using the arm as a lever, movements usually resorted to in breaking up adhesions were made. Evidently some of the adhesions did rupture, and after continuing the movements for three or four minutes, a sheet was placed around the patient's waist, and held from the opposite side by Dr. Rockwell's wife, while slight traction was made upward and outward, no towel being used for the purpose. The amount of traction was nothing like what he should have regarded as prudent to make, when it was stopped in order to readjust the band about the waist. While arranging to make a second attempt—five or six minutes—he thought he perceived a swelling in the axilla, and called Dr. Rockwell's attention to it, who thought it merely superficial and caused by the pressure from the bandage, and found what to him seemed to be the same condition upon the opposite side. Dr. Sands, however, removed the sheet, when it was very apparent that a bloodvessel had given way; there was a quite rapid increase of the swelling in the axillary region, and it was very soon as large as the head of a child at term. There was no pulsation in the radial, the ulnar, or the brachial artery. Feeling very certain that some large bloodvessel had ruptured, he was apprehensive regarding the ultimate result. Nothing in the way of treatment was done except to place the arm by the side and apply a bandage, but within half an hour the skin in the axilla had begun to show discoloration, and within a few hours the discoloration was very marked and extended up to the shoulder. The patient was excessively prostrated by the accident, and

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at one time it seemed not improbable that she might die from syncope. Hypodermic injections of brandy were given, and brandy by the mouth as soon as it could be swallowed, but she remained in a very low condition for several days, especially at night. In the course of the next day after the accident the extravasation gave signs of its presence quite well, down upon the side of the chest, and later it could be readily seen upon the side of the body as low as the side of the pelvis. The discoloration behind covered nearly the entire scapular region. There was neither fluctuation nor murmur over the region of extravasation. Nothing more serious had as yet occurred; there had been gradual improvement, and although pulsation had not returned in any of the arteries of the right arm, the limb presented no unfavourable appearance. The patient made no special complaint, except with reference to a very uncomfortable tingling, at times, along the distribution of the ulnar nerve. He thought that no other vessel except the axillary artery was ruptured, was gratified at an unexpected recovery from so dangerous an accident, and was surprised that such a rupture should occur from the use of so slight an amount of force. There was no interference with the general nutrition of the limb.

Midwifery and Gynæcology.

Cæsarean Section performed on Account of Cancer of the Rectum.

The following case is related by Dr. KALTENBACH in the *Zeitschrift für Geburtshülfe und Gynäkologie*, B. iv. H. 2: The patient was thirty-seven years old, and had had eight previous normal deliveries, the last three years before. The only symptoms of the disease had been pains in the back and difficulty in defecation during the last two months of pregnancy.

Labour came on at full term, and the child presented by the breech. The author was only called in after three days and a half, when neither the natural efforts, nor attempts at extraction, had succeeded in effecting delivery. The patient then showed all the signs of commencing exhaustion; the pains had ceased, and the fœtus had died. The vagina was found to be obstructed about 3 to 4 cm. above its outlet by a firm, somewhat nodular, tumour, as large as the head of a six or seven months' fœtus, which pressed it forward. Rectal exploration showed that the tumour was immovably fixed to the lower part of the sacrum. There remained only a space of 4 cm. between the tumour and the symphysis.

The author operated, under unfavourable circumstances, with such antiseptic precautions as could be carried out by the use of a solution of chlorine. The placenta was found attached in front, and it, as well as the fœtus, showed signs of commencing decomposition. Some vessels in the uterine wall had to be secured to arrest hemorrhage, and the uterine wound was closed with fifteen silk sutures. The patient was in fair condition after the operation, but died on the sixth day from septic peritonitis.

At the autopsy the uterine wound was found to be gaping widely, but no hemorrhage had occurred. The tumour proved to be a medullary carcinoma, commencing from the rectum, which had grown posteriorly to that viscus, and was attached to the sacrum and ischium.

The author ascribes the failure of union in the uterus, and the gaping condition in which the wound in it was found, not to the effect of the uterine contraction, but to the access of septic material, which prevented the chance of primary union. He now regrets that he did not operate according to Porro's method, ex-

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cising the whole uterus with the ovaries, and fixing the stump in the abdominal wound.—*Obstetrical Journal of Great Britain*, Jan. 1880.

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Puerperal Aphasia.

Sudden loss of speech after delivery is so rare that Kussmaul does not mention a single case in his work on the *Disturbances of Speech*. A Polish physician, Dr. LEWANDOWSKI, has published a case which came under his observation in the *Medycyna* (No. 38, 1877); and the reporter of his observation in the *Allgemeine Medicin. Central-Zeitung* (No. 33, 1879) adds another which he saw in Paris in 1873. In Dr. Lewandowski's case, the patient had, thirty-six hours after she had been delivered of her tenth child, eaten a basin of broth and a piece of cake. The next day, she had repeated rigors, and complained of heat, cephalalgia, and sleeplessness. In the tenth night after delivery, the patient suddenly began to scream, utter unintelligible and disconnected words; repeatedly putting her hand to the left side of her head. She was perfectly conscious, but could give no answer to questions. Her pupils were equal in size; there was photophobia, but no symptoms of paralysis. Eight leeches were applied behind her ears, and chloral-hydrate given internally. The next day, she could say "No;" and in three days had recovered the power of speaking and writing. The second case is still more interesting, as the reporter was present at the *post-mortem* examination. The patient had been delivered without much trouble, and did well for about a week. On the ninth day, rigor, headache, and pyrexia set in. During the next four days, she suffered from slight tetanic convulsions. In the following days, she retained consciousness, and could move freely her limbs and tongue, but had lost the power of speech. Nothing abnormal could be detected. During the following three days, convulsions and somnolence alternated. She did not regain consciousness, and died on the seventeenth day after delivery. At the *post-mortem* examination, inflammation of the brain and its convolutions was found to exist. In the left anterior convolution was a partly decomposed focus of the size of a nut, surrounded by minute hemorrhages. Several purulent foci were in the lungs, and two purulent foci in the uterus beneath the mucous membrane, and suppuration of the veins of the ovario-uterine plexus.—*British Med. Journal*, Oct. 11, 1879.

In a Clinical Lecture upon Loss of Speech, Dr. FINLAYSON relates (*Glasgow Med. Journal*, Sept. 1879) two cases in which aphasia, consequent upon right hemiplegia, came on after parturition. In neither patient was there any evidence of valvular disease of the heart; neither of them had any history of rheumatic fever, and the age of the first woman was thirty-five, of the second thirty-nine. It may be concluded, therefore, that the mischief was due to the tendency which puerperal women have to the formation of clots in their vessels, and so to the subsequent occurrence of embolism in various forms. The recurrence of the attack in both of the cases is remarkable.

The first patient had been seized suddenly, ten days after her second confinement, three years ago, with slight paralytic symptoms in the right side, and with very complete loss of speech; she had, however, made a partial recovery, and was able to say "Yes" and "No," and a few isolated words as required; but after her next confinement, in November, 1878, she lost her speech completely. The affection of the fingers in the right hand is limited to a little numbness and weakness, and is not at all considerable. She can protrude her tongue quite well, but its movements are perhaps somewhat impaired. She is now absolutely speechless, except that she frequently gives a little cry like "Ah." She is able, however, both to read and also to understand spoken words, and can write short replies consisting of a few words.

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In the second patient the first attack of right hemiplegia and aphasia occurred suddenly in her ninth confinement, about three weeks after natural labour and convalescence. She then regained speech in a few days, at least to a considerable extent, the hemiplegia passing off in about three weeks. The second attack occurred after the next labour, two years later; the child, when born, was apparently in a state of incipient decomposition, and her labour seems to have been tedious and her recovery slow. The paralytic seizure occurred suddenly about the twentieth day, and the attack was associated with involuntary passing of urine and motions. Her general appearance was indicative of debility and anæmia. The hemiplegia now, after the lapse of four months, appears likely to be permanent, as extreme rigidity has supervened. An almost complete loss of speech also persists. She can, however, say "Ay" and "No," and uses these words correctly as a rule. She also utters a longer jabber of incoherent sounds, and has occasionally said some words, and even short sentences, by accident, as it were, so that it was clear that she had no physical defect in the matter of mere articulation. She seemed, after a time, to understand the words addressed to her very correctly.—*Obstetrical Journal of Great Britain*, Jan. 1880.

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Intra-Uterine Vaccination.

The question whether it is possible to render the fœtus *in utero* insusceptible of smallpox by vaccinating the pregnant female, has been examined by Dr. A. E. BURCKHARDT in the *Deutsches Archiv für Klinische Medicin*, Band 24. Attention was previously directed to the subject by Professor Bollinger of Munich, in his article on Human and Animal Vaccine, published in Volkmann's *Sammlung Klinischer Vorträge*. He suggested that, as the poison of smallpox was known to be capable of transmission from the mother to the fœtus, a similar condition might be found to exist with regard to vaccine; and that this was supported by the number of cases in which insusceptibility of infants to vaccination might be traced to the revaccination of the mothers during pregnancy. The results of some experiments on sheep also pointed in the same direction. Rickett inoculated about seven hundred pregnant ewes during the last four to six weeks of gestation with *variola ovina*. Their lambs were inoculated when from four to six weeks old with good sheep-pox lymph; no result followed in any case, while thirty-six other lambs treated in the same way had very fine pustules. A similar observation has been made by Roloff. The only observation on the human subject, according to Dr. Bollinger, is that of Underhill, who found, after successfully vaccinating a woman in the eighth month of pregnancy, that vaccination of her infant with recent lymph in the third and fourth months produced no result. Dr. Burckhardt's researches were carried on in Dr. Bischoff's obstetric wards in the hospital at Basel. 1877 and 1878, he revaccinated twenty-eight pregnant women. From various circumstances, however, such as still-births, early removal of the children, etc., only eight of the children were available for observation. To test the accuracy of his results, he vaccinated four children whose mothers had not been vaccinated during pregnancy, and in all produced fine pustules. The results with the children of the vaccinated women were these. 1. The children of four women who were successfully revaccinated during pregnancy were all found to be insusceptible of the vaccine virus. One of them was still insusceptible at the end of half a year; while the lymph employed in the other three cases was used successfully in other children. 2. The children of two mothers who had been revaccinated with partial success were both found insusceptible of vaccination. One of the test children was vaccinated successfully, the other without effect—but perhaps the lymph used in this case was too old. 3. Of the children of two women

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who had been unsuccessfully revaccinated, one was vaccinated without result, while the operation in the other was successful. The mother of the latter had been revaccinated successfully five years previously. Dr. Burckhardt has made some observations on the subcutaneous injection of vaccine lymph, taking for the purpose a sufficient quantity to vaccinate six or eight persons in the ordinary way and mixing it with a drop of distilled water. The injection of this into the subcutaneous tissue of pregnant women was not followed by local reaction or general disturbance. He treated ten women in this way; but only two of the children were available for experiment. Both were found to be insusceptible; while two other children, vaccinated with the same lymph, had good pustules. Dr. Burckhardt considers it too soon to arrive at any positive conclusions and remarks that the value of the process can only be decided by the results obtained by a number of independent observers.—*British Med. Journal*, Nov. 22, 1879.

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The Results of Freund's Operation for Total Extirpation of the Cancerous Uterus.

The mortality of this operation appears to have been greater in the more recent than in the earlier cases reported. In the hands of the author, three of the first five patients recovered from the effects of the operation, and two of the second five, making a mortality of 50 per cent. in the first ten cases. In a Paper read at the meeting of the International Medical Congress at Amsterdam, in September, 1879, Dr. FREUND gives the results of four more operations undertaken since the end of 1878. In one patient, who was enormously fat, he found it necessary to give up the operation after having opened the abdomen. The patient recovered from the effects of the incision. Funnel-shaped excision of the cervix was afterwards performed, but the growth recurred in two months.

The other three patients all died; the first, at Erlangen, in the Clinic of Professor Zweifel, from peritonitis, after four days. The second, in the Clinic of Dr. Schroeder, did well for a week, but died after twelve days. The peritoneal borders of the wound were found covered with pus. The third, at Strasburg, in the author's own Clinic, died from shock, the operation having been undertaken when symptoms of commencing peritonitis had appeared from the carcinoma breaking through into the pouch of Douglas.

The author admits that the results of the operation cannot be expected to improve as those of ovariotomy have done, since, from its commencement, it has had the benefit of the antiseptic method. In view of the increasing mortality, he thinks that a too great liberality has been shown, both in the choice of cases, and in the introduction of modifications of the first method of operating. He intends, however, in future to adopt the plan of permanent irrigation of the vagina after the operation.

Of the five successful cases previously reported by the author, two have since died, one from recurrence of cancer, one from acute pleurisy. A third patient has a recurrence of growth. The author is now of opinion that the operation should be limited to cases of glandular carcinoma of the cervical canal, and that those of ordinary epithelioma or cauliflower excrescence of the cervix, or those in which the growth has reached the outer surface of the cervix, are not suitable for it.—*Obstetrical Journal of Great Britain*, Jan. 1880, from *Centralblatt für Gynäkologie*, Oct. 11, 1879.

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Ovariotomy following Incision and long Drainage.

At a late meeting of the Medical Society of London (*Lancet*, Dec. 13, 1879) Mr. KNOWSLEY THORNTON read a paper on Ovariotomy following incision, long

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drainage, and supposed cure of ovarian tumour. The paper was a record of three cases of ovarian tumour, in which exploratory incision, followed by drainage of the cyst, with injections, had been employed for two of the cases, and injections for the third. All were supposed to be cases of cure of ovarian tumour without ovariotomy. In all re-growth took place, and the author of the paper eventually removed all successfully by ovariotomy. The periods between the first operations and the successful ovariotomies were respectively four years, three and a half years, and eleven years. All these operations were complicated by serious adhesions, and all the cases presented features of special interest, apart from those common to all. In some concluding remarks the author referred to the special features of interest as follows: It is very remarkable that two of these cases should have survived such grave dangers as the sponge being left in and secondary hemorrhage, after also escaping the almost equal dangers of tapping and drainage. The fact of a sponge being left in the peritoneum was by no means the solitary example of this accident in ovariotomy, but this was the first recorded case in which recovery had followed its removal. The author had twice before had hemorrhage from slipping of a ligature, but neither case recovered, and among many similar cases he had heard of in only one was the patient's life saved, and in that case the hemorrhage was discovered and stopped almost directly after the operation. He attributed recovery in his own case entirely to the antiseptic method, and he called attention to the striking difference in the rapidity of the recoveries in the two aseptic cases as compared with the putrid case, the grave accidents to which the former cases were exposed merely accentuating this difference. In all three cases the steady progress was much aided by regulating the temperature with the ice-water cap. The cases, taken together, teach two important lessons: 1. The thoroughly unsatisfactory nature of the so-called cure by tapping and drainage; a lesson which the pathology of ovarian tumours might teach without surgical experiment. 2. The important fact that cases which have been treated by this unscientific method may still be successfully dealt with by the major operation of ovariotomy, even though many years have elapsed since the supposed cure. Other points of interest were: the entire absence of adhesion between the cicatrix and parietes in Case No. 1; the method of dealing with very firm adhesion to intestine; certain points as to antiseptic operation in presence of putrid sinus; the entire absence in Case No. 3 of any sign of the entire rupture of the linea alba, which had taken place at the time of the former operation; the danger of trusting to a single ligature, however small the pedicle; and the importance of not being hurried into opening the abdomen without the spray in a case of secondary hemorrhage into peritoneum.

Mr. DORAN said that the reason why drainage was unsuccessful in these cases is because it is required to act contrary to the laws of gravity. The reason was well seen in the rapid evacuation and cure of abscesses connected with the urethra.

Dr. WILTSHIRE said these cases showed the folly of attempting to cure ovarian disease by tapping and drainage. He thought when the cyst-wall was too firmly adherent to the bowel for removal, that the epithelial layer of the cyst should be carefully dissected off. He knew of a case where fatal hemorrhage occurred from a vessel in the pedicle being pierced by the sharp-pointed needle used in transfixion. In this case the pedicle had been tied in two halves, thus leaving the punctured vessel gaping. He agreed that many cases were now successfully treated by the aid of antiseptics which would not do without them.

Mr. THORNTON, in reply, wished that all misfortunes in surgery could be brought before the profession. He agreed with Mr. Doran's remarks about drainage. The adhesions in these cases were merely secondary, and the pedicles were long and would not have presented any difficulty to primary ovariotomy.

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He thought the slipping of the ligature was due to the contraction of the muscular tissue of the pedicle. To prevent this the pedicle should be transfixed before ligation, for which he always used a sharp needle, spreading out the pedicle to prevent the possibility of puncturing a vessel. Many cases supposed to be cured by tapping and drainage are really only temporarily relieved.

Medical Jurisprudence and Toxicology.

Carbolic Acid Poisoning through the previously Healthy Skin.

Dr. EDWARD ZILLNER, assistant to the Professor of Medical Jurisprudence at Vienna (*Wiener Med. Wochenschrift*, No. 47, 1879) relates the following interesting case: A young child of fourteen months was trying to raise itself up in the street by means of a can belonging to one of the municipal "disinfecting officers," which contained about a litre of 30 to 40 per cent. carbolic acid solution. In so doing it upset the contents of the can over itself, so that nearly the whole of the front of its trunk and extremities were wetted by the acid. The accident happened on June 30 at 3 P. M., and the child was almost immediately after taken to the hospital. It was deeply comatose, with a very weak, uncountable pulse. There were abundant rales over both lungs. It died without recovering consciousness at 4 A. M., July 1. No smell of carbolic acid could be detected in any of the organs of the body at the autopsy, but the urine contained whitish flocculi, and on the second day had turned of a dirty brown colour, while Professor Ludwig detected carbolic acid in it on chemical analysis. The coma could not be accounted for by any injury to the head or any disease of the brain. The bronchial catarrh appears to have been an affair of some standing, the child being also rickety and delicate. Dr. Zillner gave it as his decided opinion—a judicial inquiry having been opened—that the carbolic acid was the cause of death; but a second physician ascribed the latter to the bronchitis. A third, however, appointed as arbiter, entirely agreed, as most people would probably be inclined to do, with Dr. Zillner. The case is nearly, if not quite, unique as an example of fatal carbolic acid poisoning in an individual whose skin was previously quite healthy. A very similar case has been published by Sandwell (*British Medical Journal*, October 8, 1870), but the child was ill at the time with pleurisy and intestinal catarrh, and may have succumbed to them. Dr. Wicke, of Göttingen (*Deutsche Klinik*, 1869, Nos. 19 and 20), records a case in which a patient died a few minutes after carbolic acid had been painted on his scalp, but here the skin had been affected for twelve years with favus. One point in Zillner's case deserves notice—the large amount of ante-mortem coagulation of the blood. As a rule, the blood remains fluid after carbolic acid poisoning. The only exceptions appear to be those cases where, as in Zillner's, the agony is much prolonged.—*Med. Times and Gazette*, Dec. 20, 1879.

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MEDICAL NEWS.

The Pathology of Yellow Fever.—The Havana Yellow Fever Commission of the National Board of Health have just issued their preliminary report, from which we learn that the microscopical investigations of the Commission lead them to the belief that in yellow fever the white blood corpuscles undergo a process of fatty degeneration, but they failed to find in the blood any organism which can be considered pathognomonic of the disease.

From this report it also appears that yellow fever must be considered as endemic in the Island of Cuba, and that for many years it has prevailed annually in the principal ports. The facts presented do not confirm the theory of the spontaneous origin of the yellow fever poison on board ships, and make it improbable that the cleansing of the harbor of Havana and the constant removal of its waters, however desirable, would prevent the infection of the shipping at this port.

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Health Reports.—Deaths from smallpox have been reported in New York, Philadelphia, Washington, Chicago, and San Antonio. The disease has existed for some time along our borders—for example, at Montreal, St. Johns, N. B., Havana, and Matamoras—and in the principal cities of Europe. Upwards of 250 deaths have been reported at Paris since August 21st.

Measles are very prevalent in New York, Brooklyn, and Chicago. *Scarlet fever*, although declining, is widely spread through the Atlantic States as far south as Baltimore, and extends to the Mississippi in the country north of the Potomac and Ohio rivers. The largest mortality prevails at Providence, Baltimore, and Cleveland. *Diphtheria* and *croup* find a number of victims in Boston, New York, Brooklyn, Philadelphia, Chicago, and Kansas City.

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Relation of Diarrhœa to Temperature.—The unusually cold and damp summer experienced in Great Britain last year has resulted in an extraordinary reduction in the number of deaths from diarrhœa. We see it stated that at Birmingham, where the mean temperature was 2.6° lower than that for the corresponding period of 1878, there were only 81 deaths from diarrhœa last July, August, and September, against 534 in those months in 1878.

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A Confession of Faith.—The *Lancet* (Dec. 20, 1879), in a carefully written editorial, announces its conversion to antiseptic surgery, and makes the following avowal of faith: "After the most careful consideration of the subject, we believe Listerism has undoubtedly diminished the mortality and the danger to patients situated under unfavourable hygienic conditions, after surgical operations; and holding this belief, we may argue from the greater to the less, and assert our conviction that this same system is capable of preventing septo-pyæmia in patients under almost all circumstances. We hold therefore that Listerism is destined to be the surgery of the future; for, however difficult the details or length of time required to carry out these principles in individual cases, it must and will prevail, because it guards our patients from unquestionable dangers."

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Deaths from the Inhalation of Ether.—The *Canada Lancet* (December, 1879) reports a case of sudden death from the inhalation of ether, which occurred at

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Aylmer, Ont., a few weeks previously. Scarcely an ounce of ether was administered for the purpose of extracting a tooth. The coroner's jury found that the death was due to paralysis of the heart caused by the inhalation of ether. Another case is reported at Providence (*Boston Med. and Surg. Journ.*, Jan. 15, 1880), in which the ether was given to facilitate the diagnosis of an injury to the hip. After inhalation for about fifteen minutes the man suddenly ceased to breathe. The autopsy showed effusion of serum beneath the arachnoid, valvular disease of heart, and cystic degeneration of the kidneys.

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Deodorization of Iodoform.—According to M. Constantin Paul, iodoform can be deprived of its odour by essence of mint, six drops sufficing to deodorize thirty grammes of iodoform. Dr. Lindemann prefers oil of cloves, or balsam of Peru.

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Recommendations to Congress of the National Academy of Sciences in reference to the National Board of Health.

In accordance with the Act establishing the National Board of Health, the National Academy of Sciences appointed a committee, with power to act, to confer with the National Board of Health as to a plan for a permanent public health organization. The conference was held at Washington in the latter part of December, and resulted in the following recommendations to Congress:—

1. That for the present no change be made in the plan of organization of the National Board of Health.

2. That the Board be authorized to confer on an Executive Committee such of its powers and duties as it may deem advisable.

3. That the Board continue its special investigations; and that, in addition to those already undertaken, there should be included investigations upon cholera, malaria, typhoid and typho-malarial fevers, diphtheria, and cerebro-spinal meningitis. There should also be carried on sanitary surveys of places remarkably unhealthy or liable to become so.

4. That the National Board of Health should take steps to secure, as far as possible throughout the country, uniformity in the methods of collecting and reporting vital statistics; and that, to this end, it should call a convention of representatives of United States, State, and local authorities engaged in the preparation of such statistics.

5. That the Act to prevent the introduction of contagious and infectious diseases into the United States should be so amended, that, in order to inforce the penalties provided for vessels which shall enter ports of the United States in violation thereof, it shall not be necessary to show that the port of departure was at the precise time of departure of such vessel actually infected with contagious or infectious disease; nor that ten days' official promulgation in the port from which said vessel sailed should have been effected.

6. That the National Board or its Executive Committee shall report to the President when any given city or locality is considered to be dangerously infected; and that, upon the official publication by the President of such report, the transportation of goods or persons from the place thus proclaimed as dangerously infected into other States shall be forbidden, under penalties to be imposed under the jurisdiction of United States courts, unless such transportation is carried on in accordance with the rules and regulations approved by the National Board of Health.

7. That the President be authorized to call an international sanitary council, to meet at Washington, D. C., at which the several powers having jurisdiction of ports likely to be infected with yellow fever shall be invited to send delegates for the purpose of securing an international system of notification as to the actual

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sanitary condition of the ports and places under the jurisdiction of such powers, and of all vessels sailing therefrom.

8. That the National Board of Health at once establish quarantine stations near the mouth of Chesapeake Bay and in the vicinity of Ship Island in the Gulf of Mexico; that these stations be provided with all the buildings, wharves, boats, and apparatus for properly treating an infected ship, including passengers, crew, and freight; and that they be kept up and managed by the National Board of Health.

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Sanitary Convention at Detroit.—The first of a series of sanitary conventions was held at Detroit, on January 7th and 8th, under the auspices of the Michigan State Board of Health. A feature of the convention was an exhibition of sanitary appliances with the view of bringing them more prominently to the attention of the public. There was no fee of admission or premium offered for competition.

A number of popular papers on sanitary subjects were read. Dr. V. C. Vaughan, of Ann Arbor, read an interesting paper on "The Contamination of Drinking Water by Infiltration of Organic Matter through the Soil," which elicited from Dr. Kedzie the statement that he had examined a large number of wells in Lansing, where typhoid fever has prevailed to an alarming extent, and in every instance had found the well water contaminated with decomposing organic matter; and that in Grand Rapids, where one of the cemeteries is right in the midst of the city, underlaid with a bed of impervious clay, sloping towards the wells on a certain street, every family in the vicinity had had the typhoid fever, from which many had died.

Papers were also read on "Light in the Public Schools," "Prevention of Pulmonary Consumption," "Ventilation," "School Hygiene," "Water Filters," "Adulteration of Food," "Cooking Schools," "Cosmetics," and other subjects.

This plan of arousing an interest in, and of popularizing, sanitary knowledge, which has been initiated by the Michigan Health Board, is admirably calculated to effect the object, and is worthy of general adoption.

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American Public Health Association.—At the seventh annual meeting, held at Nashville, in November last, the following officers were elected for the ensuing year: President, Dr. John S. Billings, U.S.A. Vice-Presidents, Drs. Samuel Choppin, of Louisiana, and R. C. Kedzie, of Michigan. Treasurer, Dr. J. B. Lindsley, of Tennessee. Executive Committee, Drs. C. B. White, of Louisiana; J. C. Cabell, of Virginia; E. M. Hunt, of New Jersey; D. D. Plunkett, of Tennessee; C. F. Folsom, of Massachusetts; and A. L. Gihon, U.S.N. The next meeting will be held at New Orleans.

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Louisiana State Medical Society.—The next annual meeting of this Society will be held at New Orleans, on the 31st of March.

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The Lieutenant-Governor of Quebec.—Theodore Robitaille, M.D., has been appointed Lieutenant-Governor of Quebec, and the medical schools of Montreal have forwarded to him congratulatory addresses on his elevation to the highest office in the Province.

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Professor Hebra.—We regret to learn that the health of this distinguished dermatologist does not permit him to lecture this winter. His place is supplied at present by his son-in-law, Prof. Kaposi, the joint editor of his great work on "Diseases of the Skin."

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Bequests to the New York Academy of Medicine.—The late Dr. Freeman J. Bumstead bequeathed his entire medical library, which is particularly rich in works on venereal diseases, to the New York Academy of Medicine. The late Dr. Oliver White, of New York, recently deceased, left five hundred dollars to the same Society.

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Heavy Damages for Accident to a Medical Man.—Dr. C. D. Phillips, a London practitioner, recently brought an action against the London and South-western Railway Co. for damages sustained while travelling on the company's road, when the train came in collision with an engine standing on the line, which resulted in fracture of two of his ribs and severe injury to the spinal cord, causing partial paralysis, dyspnœa, and much pain. The opinion of eminent medical experts differed; some thinking that recovery was impossible, others that in three or four years he might recover to some extent. Dr. Phillips showed that his practice for the three preceding years had yielded him £6000 a year. He was awarded £7000 damages, and a new trial was granted on the ground that the damages were inadequate. In the second trial Lord Chief-Justice Coleridge charged the jury that the compensation was to be what they thought fair, and stated that in this accident he considered the defendants singularly free from all moral blame. The jury gave a verdict of £16,000 damages. Again a new trial was applied for on the ground that the damages were excessive, but was refused. It is intimated that the case will be appealed to the House of Lords.

This case has particular interest on this side of the Atlantic, owing to the very inadequate awards which are usually obtained under similar circumstances in our courts. In the State of Pennsylvania the maximum damages in any event obtainable in case of *death* is limited by Act of Assembly to the insignificant sum of $5000, or one-sixteenth the amount obtained in the English case of accident reported above.

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Literary Notes.

Changes in Medical Journals.—The January number of the *New York Medical Journal* appears under the editorship of Dr. Frank P. Foster, who has had more or less to do with medical journalism for some years past. In his introductory he gives the plan on which he proposes to conduct his journal, and which should result to the satisfaction of his readers and to the prosperity of the periodical. Dr. Hunter's management was able and always evinced a liberal and honourable spirit, and in his retirement he carries with him the esteem of his co-labourers.

New Medical Journals.—The Practitioner is a monthly, issued at Baltimore, under the editorial management of Drs. Harvey L. Byrd and Basil M. Wilkenson. The first number of 52 pages contains several original communications, some selections, and several editorials. The journal includes dentistry within its scope. We regret that its editors should have considered it desirable to give it the name which has long belonged to an excellent London periodical, and virtually the same as that of three other journals in this country.

The Alienist and Neurologist is a new quarterly devoted to psychiatry and neurology, and is edited by Dr. C. H. Hughes, of St. Louis. The first number presents an attractive appearance, and contains original communications from Drs. Curwen, Beard, Hughes. Dean, Stevens, Pliny Earle, and Allan McLane Hamilton. Selections and editorials complete the make-up of the journal.

The Kansas Medical Index is a small monthly of twenty-nine pages, issued at Fort Scott, under the editorial charge of Dr. F. F. Dickman, who is "persuaded that there is room and use for a live medical journal in the State of Kansas," and he proposes that the "Index" shall occupy the field.

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The *Chicago Medical Gazette* is a neat-looking, 24-page quarto, published semi-monthly, and edited by Dr. E. C. Dudley. Its contents are varied, and the first number is well illustrated.

The College and Clinical Record is a 16-page monthly, conducted in the interests of the Alumni and students of the Jefferson Medical College, Philadelphia, and is edited by Drs. R. J. Dunglison and Frank Woodbury. Its object is to convey "the most reliable intelligence of current affairs at the Jefferson Medical College" and to furnish "a means of intercourse between graduates of the school." It will also contain reports of the Jefferson clinics, the introductory and valedictory addresses, etc. The first number presents a very attractive appearance.

The Annals of the Anatomical and Surgical Society is a monthly journal edited by Dr. Charles Jewett, and is the organ of the Brooklyn Anatomical and Surgical Society. It is beautifully printed on heavy toned paper, with wide margins. The initial number contains a valuable paper on "Cerebral Anatomy with special reference to the form of the Corpus Striatum," by Prof. Dalton, and a description of some specimens of "double monsters" in the museum of the society. The journal is published by G. P. Putnam's Sons, New York.

After a suspension of eight years, Dr. Greensville Dowell has recommenced the publication of the *Galveston Medical Journal*, assisted by Drs. J. F. Y. Paine and T. J. Heard.

Book Announcements.—Mr. H. C. Lea has now ready a translation of Cornil and Ranvier's "Manual of Pathological Histology," by Drs. E. O. Shakespeare and J. Henry C. Simes; he also announces a "Handbook of the Principles and Practice of Medicine," based upon Husband's Handbook of Practice, by Frank Woodbury, M.D., Physician to the German Hospital, Philadelphia; and "A Manual of the Diseases Peculiar to Women," by Dr. James R. Chadwick, of Boston. The second volume of Hartshorne's edition of Reynolds's "System of Medicine" is now ready for delivery to subscribers. In a few weeks will be published Dr. Reichert's edition of Foster's "Physiology," in which the editor's additions consist of a concise summary of structural physiology, with numerous illustrations.

Messrs. Wm. Wood & Co. announce the following new works to be published in their "Library of Standard Medical Authors," for 1880. "Venereal Diseases," by Dr. E. L. Keyes, of New York; "A Treatise on the Continued and Periodical Fevers," by Dr. James C. Wilson, of Philadelphia; a translation of "A Treatise on Foreign Bodies in Surgical Practice," by Dr. Alfred Poulet, Inspector at Val-de-Grace; "Diagnosis and Treatment of Diseases of the Ear," by Dr. Albert H. Buck, of New York; a translation of Trousseau and Pidoux's "Therapeutics;" a Treatise on "Common Forms of Menstrual Nervous Diseases," by Dr. L. Putzel, of New York; "Memoir Surgical Gynæcology," by Dr. Paul F. Munde, of New York; and a "Manual of Diseases and Deformities of the Joints," by Dr. Leroy M. Yale, of New York.

D. Appleton & Co. have in preparation a "Manual of Gynæcological Operations," by Dr. James B. Hunter, Surgeon to the New York State Woman's Hospital.

Smith, Elder & Co. announce a "Manual of Practical and Applied Anatomy," including human morphology, by H. A. Reeves, F.R.C.S., late Demonstrator of Anatomy at the London and Middlesex Hospitals.

The New Sydenham Society has resolved to reprint the classical work on "Diseases of the Chest," by the late Dr. William Stokes, of Dublin. The editor of the work will be Dr. Alfred Hudson, Regius Professor of Physic in the University of Dublin; and there is some reason to hope that the volume will contain a biography of Dr. Stokes from the pen of a near relative. The first volume of

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the Society's series for 1880 will be Vol. V. of Hebra on "Diseases of the Skin," translated by Mr. Warren Tay.

Herr ENKE, of Stuttgart, has issued the prospectus of a new surgical work which is being published under the title of "Deutsche Chirurgie," and is edited by Professor Billroth, of Vienna, and Professor Lücke, of Strasburg. The work is being published in parts, each complete in itself as to paging and index; and any part can be bought apart from the others. When finished it will form a perfect text-book of surgery as represented by German surgeons; and from the eminence of its contributors it promises to be one of the best publications of the kind (if not *the* best) in any language. From the long list of subjects which have been assigned to different writers, we here give a few of the most important. Professor Recklinghausen treats of disturbances of the circulation and of nutrition, Professor Kaposi of syphilis, Professor Bruns of fractures, Professor Volkmann of diseases of the bones and joints; Professor Lücke takes up diseases of the thyroid gland, Professor Billroth those of the mamma; Professor Nussbaum has allotted to him injuries of the abdomen, Professor Esmarch diseases and injuries of the anus and rectum; Professor Mass has the sections on surgical diseases of the bladder and kidneys, and Professor Olshausen those of the ovaries. The same house announces the "Archiv für Kinderheilkunde," to be edited by Drs. A. Baginsky, M. Herz, and A. Monti.

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OBITUARY RECORD.—At New York, on the 28th of November, in the fifty-fourth year of his age, FREEMAN J. BUMSTEAD, M.D., President of the New York County Medical Society and late Professor of Venereal Diseases in the College of Physicians and Surgeons, New York.

Dr. Bumstead was a native of Boston, graduated in the Arts at Williams College, and in Medicine at Harvard University. He also studied in the hospitals of London and Paris, and was House-Surgeon at the Massachusetts General Hospital. In 1852 he settled in New York, and entered upon the practice of medicine. In 1858 he was appointed Professor of Venereal Diseases in the College of Physicians and Surgeons.

Dr. Bumstead is best known to the profession by his classical work on Venereal Diseases, which was first published in 1861, and has just reached a fourth edition, the last proof-sheets of which were read in the beginning of his fatal illness.

—— In this city, on the 9th of December, B. LINCOLN RAY, M.D., aged 43 years.

Dr. Ray was a frequent contributor to the Review Department of the *American Journal*, and his scholarly style and impartial criticism always rendered his writings attractive. His death is deeply lamented by a large circle of friends.

—— At Cannes, on the 2d of December, J. SOELBERG WELLS, M.D., F.R.C.S. Eng., Professor of Ophthalmology in King's College, London.

Mr. Wells received his degree of M.D. from the University of Edinburgh, after which he spent four years at the medical schools of Paris, Berlin, and Vienna, and then, having selected the diseases of the eye for his specialty, he studied ophthalmology under Graefe, Donders, and Helmholtz. In 1867 he received an appointment on the Staff of the Royal Ophthalmic Hospital, Moorfields. Possessed of natural abilities and good education, Mr. Wells soon won for himself a leading position among the ophthalmologists of London, and enjoyed a rich and select clientèle. In 1869 he published his elaborate "Treatise on the Diseases of the Eye and their Treatment," which has passed through three editions in England and two in this country, and enjoys the enviable reputation of being the best systematic work on the subject in the English language.

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THE

MEDICAL NEWS AND ABSTRACT.

VOL. XXXVIII. No. 3. MARCH, 1880. WHOLE No. 447.

(For List of Contents see pp. 191-2.)

CLINICS.

Clinical Lectures.

THE TRUE AND FALSE PALSIES OF HYSTERIA.

BY S. WEIR MITCHELL, M.D., OF PHILADELPHIA,
MEMBER OF THE NATIONAL ACADEMY OF SCIENCES.

(*Concluded from page* 71.)

THE form of hysterical disorders with which I propose to begin this brief lesson on the false palsies of hysteria, is one which I do not find any where described. It is the motor ataxia of hysteria. In the great study of hysteria which Briquet made, you will find that he speaks of a locomotor ataxia in hysteria; but he is careful to assign as its cause the loss of sensation extending to joint and muscle.

While clearly recognizing this as a cause of disordered movement, I am sure that it does not cover all the forms of motor ataxia to be met with in hysteria, and which may exist without any necessary relation to paralysis as their cause. The trouble I am about to speak of I find to be very common in hysteria—to coexist with many hysteric palsies or paretic states, and sometimes, though rarely, to be the prominent malady, with almost no loss of voluntary power.

The hysterical ataxic patient of this class, and I shall consider first the nearly pure case, has full feeling, or may have it, and is quite well able to use the limbs more or less freely while lying down. When she begins to sit up or kneel or stand the lack of co-ordinate muscular movements becomes at once visible.

Instantly the patient begins to fall to one side, a voluntary effort to redress the disturbed balance results in a partial fall to the other side or back or forward, as may chance. The patient *seems* to be unable to judge of the extent to which the balance is lost, and also to determine the amount of power needed to overcome the defect. The abruptness of these efforts at redressal of equilibrium appears to show an absence or defect of the usual antagonistic activity of opponent muscles. I am inclined to think that perhaps a large share of this difficulty may be due to a slowness in

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volitional acts by reason of which the mandate reaches the muscle too late to be of ready service. This is by no means unlikely, for in many hystero-pareses I have measured and proved the retardation of nerve conduction. Slowness in learning the need to move a muscle and slowness in moving it would give rise to just such inco-ordinate action, as these cases exhibit. The lack of orderly movement is chiefly in the neck and trunk, less in the legs, and least in the arms. There is a variety of disturbed motion which at first sight looks precisely like this, but is different. In it the patient, although having marked paresis, and as in one case now under my care, distinct hemiplegia and hemianæsthesia when seated and held up, or even when the head alone is unsustained, shows the following symptoms: The head or body is pulled to one side. At the limit of this motion, or before that is reached, it is violently jerked over by the opponent muscles, as if their stretching were the signal for an explosive act of power. At once or in a moment the other muscles act in like fashion, and so the head or trunk is thrown about in a strange or disorderly manner so long as the patient remains upright. The same type of movement extends to the legs and arms. These acts are certainly of volitional birth, but they are so to speak convulsive renderings of natural acts, and are sometimes very violent.

In place of giving you types of motor ataxia with palsy I shall prefer to choose one now in my care, and which has the least share of palsy for the largest share of inco-ordination of the muscles.

Miss B., æt. 20, Kentucky, of healthy, living parents, in August, 1876, while going home from the Centennial Exhibition, caught a slight cold, out of which came complete loss of voice for seventeen months. In its return it came and went abruptly, and was well to-day and gone to-morrow. In September, 1871, at the Hot Springs, Arkansas, after a good deal of worry she is said to have had headache and dizziness, after which of a sudden she lost speech, and became unconscious, with her jaws firmly locked. The leg and arms moved in spasm, and when better had lost touch-sense, and did not feel pin pricks. This attack ended in weakness and fever, with cold feet and loss of power to swallow even saliva. After three weeks she regained speech, and then again relapsed. She was said to have had a typhoid fever, which does not seem likely.

About the fifth week she was found to have lost power in the legs. The loss is described as having been nearly entire, but by March, 1879, she had gained a good deal of motion. Since then she has been at a standstill.

In October I saw Miss B. in bed, a dark-skinned, rosy-looking girl without the least turn to tears or undue emotion. I should only have said that her manner was quick and excitable. She certainly had none of the usual furtive look, and small deceitfulnesses of a hysterical girl. Neither was there loss of tendon (patellar) reflex, and the sense of pain and touch and of heat was perfect.

While in bed Miss B. moved all her limbs somewhat slowly, but with a good deal of power; the lift of the leg was done in jerks as by distinct orders of will, but she showed none of the tremor and twitching of face and tearful look so common in hysteric girls called on for an unusual effort. When held up on her knees, she swayed to and fro, always falling if not assisted. When somewhat later she could stand up, the motor disorder showed still better. From head to foot every muscle used to preserve the upright posture was giving way momently and braced

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again by distinct acts of will. The rocking motion so caused was curious to see. A slight push was sure to upset her, as if she was unable to provide in time enough of power to resist the shock and restore the disturbed balance. If I warned her of the coming shock, she did far better. The touch of a hand greatly aided her, and the closure of her eyes made things worse. Nor did Miss B., when standing, seem to have the least idea of her balance being in danger until the sway of her figure became extreme, when she caught herself up and with an effort regained her erect position only to fall to the other side. There seemed to be a lack of appreciation of the failing balance, and a slowness in re-dressing it when lost or in peril. When added to this we have complete loss of feeling, when skin, bone, joint, and muscle share alike in this respect, we have, of course, a still more complete want of power to preserve the upright posture, but this is the form of the trouble spoken of by Briquet and others, and I wished to make it clear that there were causes of motor ataxy which did not of need involve any lack of tactile sense. If in examples like Miss B. there be any loss of sensation, it must be that of the muscles—and of these alone; but, as I have shown, this need hardly be called upon in explanation, and tardiness of transmission of nerve messages may be enough to account for all that we see.

In Miss B.'s case little was needed beyond training the weak and inapt muscles, because she ate and digested well, slept soundly, and was free from pain.

My first step was to point out to her that, after she had made an effort which seemed extreme, another forth-putting of will would add to the previous result. This seems a simple thing to make clear; but, if you can convince your patient of the fact, it is of great service, because then you go on to point out further that, perhaps, by a series of trained and aided efforts, there may be won, bit by bit, a full power of motion. To lodge this idea in a woman's mind is at once to widen the horizon of hope. How much you gain by it depends a little on whether your patient is clever and wants to get well, or is silly and prefers the role of hysteria; but, after all, the whole mode of treatment rests on a study of character, or of character and hysteria, and a moral diagnosis is the first step to take.

With Miss B., at a standstill for months—bright, clever, longing for active life—the idea was as a wholesome ferment. The nurse now began to train her while in bed to move the legs, one at a time, very slowly, but in larger and larger movements, with intervals between of a minute or more.

An order is given to lift the leg; if it be too weak, a finger beneath the ankle aids it, but no attempt must be let to fail utterly; as she gets on, the orders are to be obeyed more quickly. It is easy to sketch out for one's self what such a system should be in its details. When it has gone far enough, the patient is seated in bed with some support to her spine, and is trained to move the head freely. When, in Miss B.'s case, she was put on the edge of the bed seated, the motor ataxia began to show, so that it took some time to overcome this trouble. The next step used with me to be the walk in some form, but of late I find it better to teach the girl to creep, which is an easy and natural mode of training for the walk. The patient has pads tied over her knees, and, lying flat on her face on the floor, without skirts, has around her a folded sheet. At an order, she tries to rise, helped by the lift of the sheet-belt held by the nurse. When

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she is able to do this, and can gather her legs and arms so as to make of herself a quadruped, she is taught to balance herself, every effort being assisted, when needing help, by the nurse standing above her. The progress to creeping is easy; then comes the lesson of kneeling and pushing a chair; and last that of standing in a corner or by a chair. You see that, following nature's lessons with docile mind, we have treated the woman as nature treats an infant. For aid in walking we have three devices: the expensive wheel crutch, which can be easily imitated by a clever carpenter, being merely a framework with rollers so arranged that it includes crutch supports. Next, if need be, I use a device which may be common, for all I know, but which I have not seen elsewhere. It is a pair of crutches with a stout half hoop of metal between and in front of the two. This gives a solid support, and, in ataxic cases, is very useful as giving a sense of being secure, and therefore confidence. This crutch frame is soon replaced by a pair of supports, the base of which is about seven or eight inches long and two broad. It may be made like the lower half of a crutch, or have two columns of support set in the base, or it may be a single cane with a broad base; the top in any case should have a slight slope so as to lie easily in the line of the natural slope of the palm when resting on such a support. A rubber footing gives a little elasticity and a good hold on any form of flooring. With such a broad base of support, it is quite pleasant to find how soon the patient learns with its aid to balance herself. A third form of support which I devised two or three years ago is of use in hysteric or in any form of hemiplegia. If the left side be too feeble for the left arm to aid the left leg by a crutch, I resort to this arrangement. On the lame side a crutch having above a deep hollow to receive the armpit is fastened to the arm by two straps or a glove into which the hand is slipped. From the crutch a metal bar curves forward and towards the sound side, and ends in a handle which is grasped by the sound hand and carried forward by it.[1] I have found these supports most useful in many forms of weakness. In making them or having them made, pray remember that they be made light; most crutches are too heavy.

With regard to Miss B., I may add that she was cured in two months so as to walk unhelped anywhere, and that she is now free from pain and nervousness.

There yet remains to us hysteric paresis. Among the many disorders which hysteria affords, certain ones come clearly out from the tangle of named or nameless symptoms, and enable us to speak of them under some distinct name. It is a comfort, amidst so much that is confusing, to find these groupings of symptoms, and, in diseases of vague boundaries like neurasthenia and hysteria, a good deal of this useful sort of secondary classification is possible.

The history of hysteria is sometimes one of years, and in certain cases, either at the outset or after more or less of the strange drama of this disease has been played, the patient falls into a state of inertness of mind and body, which I am forced for lack of a better name to call hysteric paresis. It may be seen in union with other signs which are more clearly hysterical; but sometimes we find it almost pure from these disguises, as in the case of Miss L., from New Jersey, now in the Infirmary. A person of languid nature, not strong in mind or body, she began some years ago to be emotional, to have loss of appetite, weakness, tender spine, vertex headaches,

[1] All of these supports are made by Kolbé & Son, 1207 Arch Street.

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etc. By and by she took to bed, and with more and more complaint of her back, and soon of soreness everywhere; ate less and less, gave no care to her bowels, and at last became feeble, sallow, wasted to the limit of wasting, and content to lie still most of the time, using mind and body as little as she could. From this state I rescued her and made her well, and now she is here again far worse than ever, unable to lift a limb or to turn over. She is twenty-two years old, and has not menstruated in six months. She is five feet five inches, and may weigh about eighty-eight pounds. Her skin is rough, dry, unpliant, yellowish, and seems to be firmly glued to the bones and muscles beneath it. Her morning temperature does not exceed 97.5° F.; her heart beats 90 to 120, and is quick and feeble. The organs seem healthy, and the secretions normal. She cries at times, but not much. Her face, marked with acne, is set, inert, wooden, as if she could not smile. The lids droop, the mouth hangs a little open, the voice is so feeble that it is hard to know what she says. The spine is very tender, and to touch it brings a gush of tears; but the left iliac fossa and the chest muscles are also tender. Her dislike to make any effort was great, but it was clear that no motion was lost, although all were wonderfully feeble. There was not during movement the jerky action of hystero-palsies, but an extreme and evident difficulty in motion, and a sudden failure to prolong it.

All the battery of toning influences was turned on this woman, and she is now gaining ground apace. She is fed often and in small amount, had for a time rectal feeding also—and the mechanical tonics, massage, and electricity. As usual in all such cases, we wait until the flesh is coming back, the colour brightens, and the muscles grow firmer under our mechanical stimulations before we call upon her to exert herself. Then, in this order, with passive motion—motion aided by a nurse, motion resisted by a nurse, active motion, unhelped—we shall train her back to a state of health. We shall cure her surely, but whether or not she will remain well I cannot say. It will depend on what kind of influences surround her, on what she is when well.

I have given here a short sketch of a state of paresis, in which with some anæmia or without a very marked condition of lack of blood all the functions are enfeebled, and this is most notable in those which involve muscular exertion of any kind. If there be also any pain such as that of spinal irritation made worse by motion, the patient is even more apt to be sluggish, and is not slow to avail herself of this and of every excuse to keep as quiet as possible. The real and singular want of power, as well to begin as to continue a motion, seems to set this apart from cases of mere neurasthenia while the general wasting and appearance of mal-nutrition serve yet more deeply to mark the distinction. The disorder I have described so briefly is one of those which adds many recruits to that large class which some one has called "bed cases," and which are above all things distinguished by their desire to remain at rest.

We have dealt so far with cases in which there was from some cause a real lack of power. We may share the common medical belief that some of them are within the chance of abrupt help by causes like the emotions which first gave rise to them, but for the most part they are not to be looked upon as of easy relief in this or in any way; in some members of the class of false palsies to which I shall now refer it is often possible to obtain ready and even sudden cures, and among them occur the cases which afford material for the skill of the so-called magnetizers, or for the modern miracle.

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Russell Reynolds has described in a very able paper a number of cases in which some form of disorder appeared to have been brought about by dwelling upon a case of disease, the fixed idea being associated with some emotion. Now it has seemed to me that there is a state of mind and body, not rare in hysteria, in which there exists a so monstrous development of this strange power to create disorder by thinking of it that even a slight hint as it were will suffice to evoke a novel symptom. In this disease indeed we find women and men too passing into a mental state in which they are really much like people in dreams. Their power to reason on the phenomena of the senses leaves them, and what they conceive to be the case takes the place of that which is. These are they who are hurt by light or believe they are, who cannot bear noise or think they cannot, who feel vibrations as pain, who live muffled lives in dark rooms, and believe they cannot walk or even lift a hand or move the head. Such cases are looked upon as simulation of disease by some writers, and are I am sure prone to pass into that evil stage of hysteria, but others there are I also know who live lives of odd inhibition—slaves to the tyrant ideas which they themselves create.

This of course is to be met with to some extent in all grave hysteric cases, but it is also as I have said the ruling feature of a few. If you cause such hysteric women as these to believe that you can cure them you enlist on your side their own troops, for as you can create symptoms so can you also create absence of symptoms. There is in all this something like the so-called magnetizing of which we used to hear and see so much. Under a fixed belief people were made unable to move, or could not close the eyes, or could not open them, or were made to seem to have a pain by touching a point on the body. The patients I speak of are all very subject to like delusions. You put a finger firmly on the spine and ask if the patient have not now a pain in the left breast. She says no. You persist. At last she says yes—"Oh, yes, it hurts me!" Now, is this pure sham, or is it not? Does the presence of the set belief create pain? Is this like the pain of dreams, which seems real enough while we are in the state of dreaming? I have thought over all this a great deal. When we put a finger on the eye unopened for days and say now you can open it, and this is done, or when we arrest motion by an order we see a plain physical result which must have behind it a mental state out of which it grows, and so it seems to me that looking at the pain evoked by ideas or beliefs in the light we get from the motor phenomena, so evolved, we are hardly wise to stamp these pains as non-existent.

At the same time that I put forward this doubt as to the justice of the common view I am far from thinking that the hysteric girl of the class I am now discussing suffers as sharply as she seems to do, the emotions are no more in control than in a dream, and no pains are little, no burdens light. And now how to deal with these cases. Be sure you study them well before you act, because a first failure is apt to be fatal to success.

I have now in my care Miss C. from Chicago. When I first saw her she was in bed, which she quit but rarely and with difficulty. The room was kept dark, and she wore blue glasses over the closed eyes, and outside of all a bandage. She used cotton in her ears, and her nurse and parents crept about the room in list slippers. She had in all ten pillows, large and small, as supports around her, and was, as a young hysterical girl once told me "crowded with symptoms."

The character of this girl had always been that of a person thoughtful of

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and for herself, and not free from esteem for her own mental powers, so that she had been able and also very willing by degrees to rule a meek household with that reckless despotism the throne of which is very often the couch of an invalid.

This case seemed to me one in which set beliefs, easily gotten and well nursed, had attained a power which gave rise to pain and over-sensitiveness and more or less inhibited movement. I began to deal with it by learning all I could from the girl herself to add to what I already knew of her mind, her morals, her habits, tastes, friends, education, and home life. Then the talk was let to settle on her eyes, and at last on the uses of light and the fact that its excess hurts even the healthy, but does not injure them. When at last she grew interested, and with herself for a text, that was easy, I said, perhaps a woman of strong character might learn to bear the light after long disuse of her eyes; that such a one could not get well readily in the dark, and that although the light would pain her, it most surely could not cause disease. I then left her with the idea that she could in a few days conquer her rebel eyes, and that it was absurd for a woman of intellect to let one organ disorder the whole body. The next day I found her with open eyes and sunlight in the room. One by one the ideas on which the case was built were thus artfully routed, and she is now after but a few days of treatment far on the road to health.

These victories are less easy with older women; but even then the mode of dealing with them is as much a question of the basis of character as of anything else. Sometimes we only need to dispel one symptom to overcome all; sometimes the return to health and healthy ideas exacts a long and tiresome struggle. Sometimes it is safe to assure the patient at the outset that they have but to believe and exert themselves in order to walk.

In this Infirmary, I saw some years ago an abrupt success obtained in this latter way in a woman fifteen years in bed, who was made able to walk well in three weeks, and I could easily add, were it needed, the details of many other and less striking cases. I had meant to say something here of that form of hysteria in which the patient deliberately acts a part, and with more or less cunning deceives those about her. I have seen a goodly number of these cases, but among them I have found quite rare the attempt to simulate palsy. It is easy enough to learn when a woman is pretending to pass calculi or vomit snake bones, but to know if her loss of power be real, or if she be suffering from an inhibitory idea or belief is more difficult. I may say, however, that purely simulated palsies in hysterical girls lack the qualities of hystero-palsies, are too complete, and show no loss of feeling. The best cases I can recall were in very young girls, and were present with much mental disturbance and after a long role of hysteric symptoms had been played with success. But already this lecture has reached a length quite too great, and I must put off to another time what I shall yet have to say on this interesting subject.

One subject which I have not ventured upon is that of diagnosis, nor can I linger upon it. I see every now and then, quite often in fact, cases of hystero-palsies which are sent to me as organic spinal diseases, while it is very rare to observe the opposite error. I think that these mistakes arise largely from mere want of accuracy in applying the diagnostic tests, and especially the electrical tests to be found in detail in all the great text-books. Next to this in importance is a failure to look sharply into the character of the early and præ-paralytic symptoms and the apparent causes of the disease.

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I have said little as to the use of drugs in the treatment of the various forms of hysteric palsies or pseudo-palsies. I have said little because I believe that the numberless remedies for hysteria to be found in the books will be swept by another generation into the limbo provided for drugs with decayed reputations. I have no belief in the direct cure of hysteric losses of power by any drugs yet known to us; but in thus expressing myself I do not mean to say that no drugs have an indirect value. What you have to do is to rectify with care positive uterine troubles, to treat the anæmia so apt to exist in hysteria, to see that every function is well cared for, and, last not least, in ways I have pointed out, to learn what need there is to alter the moral surroundings of your patient, and then with kind and patient care, and an unbending will, to bring about the changes she may seem to require.

Do what you will—many of the cases I have so hastily sketched cannot be cured at home—isolate them, give them a new and well-trained nurse, take away, above all, the unwholesome round of home-petting or sympathy, deprive them of slaves made willing by unthinking love, and you may count on promptly curing many a case which you will utterly fail to aid under less hopeful circumstances.

CLINICAL LECTURE ILLUSTRATING ANTISEPTIC SURGERY.

Delivered in King's College Hospital.

By JOSEPH LISTER, F.R.S.,
Professor of Clinical Surgery in King's College.

GENTLEMEN: Here is a case which I wish to dress before you to-day—that of the woman from whose back I removed a large recurrent fibroid tumour twelve days ago. This tumour had first shown itself fifteen years since. It had been removed and recurred, removed again and recurred at intervals of three or four years, the woman each time foolishly allowing it to grow to large size before she sought the surgeon's aid. On the occasion of its fourth removal it was found adherent to the spinous processes of some of the dorsal vertebræ, which were accordingly scraped by the surgeon who performed the operation. When the patient again applied to him, with a large tumour in the same situation, he recommended her to my care. Finding the tumour of firm consistence, well defined, and freely movable, except about its middle, where it lay over the spine, and considering its very chronic course, I thought it right to give the poor woman another chance, and accordingly I removed the large mass, taking with it the skin that lay over the growth, about five inches in breadth, and all the scar of the previous operations, the incision being about a foot in length. Finding the tumour firmly adherent to the spinous processes of four of the dorsal vertebræ, I removed those processes in almost their entire length with cutting pliers, and also a considerable mass of spinal muscles in their vicinity, leaving a large hollow in the middle of the back. I was desirous that this deficiency should be closed in immediately if possible, and accordingly, by a plastic operation, I brought a large flap of skin inwards from the right side of the back, to cover it.

In adjusting the flap in its new position, I found great advantage in the use of the button-stitches of relaxation. I have for some time past used the lead buttons with a modification of form which makes them better for their purpose.

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The plate is cut in the shape represented at A (Fig. 1), having two wings, which are turned up so as to be at an angle of about 45° with the rest of the plate; and round these wings the end of the wire is wound after passing through the

Fig. 1.

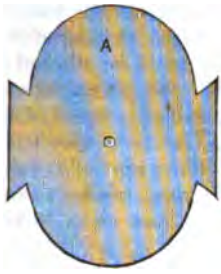
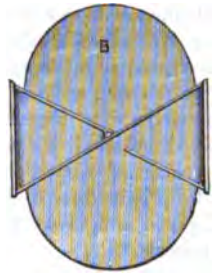
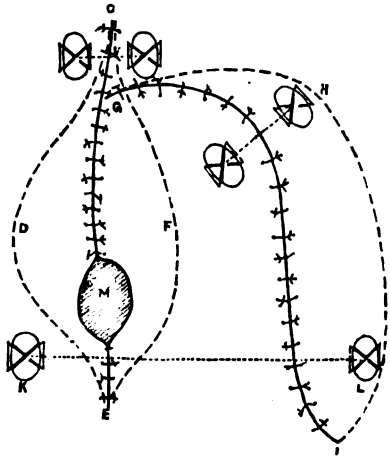


Fig. 2.



central perforation, as shown at B (Fig. 2). This is more readily done and undone than the winding of the wire round the plate as formerly, and at the same time the presence of the wire on the under surface of the plate is avoided, which by its pressure sometimes gave rise to a linear sore.[1] The buttons are represented in position in the accompanying wood-cut (Fig. 3), where the coarse dotted lines, C D E, C F E, represent the incisions made for removal of the tumour, the coarse dotted line, G H I, the incision which limited the flap of skin raised in the plastic operation, and the continuous lines show the ultimate arrangement after the flap was stitched in place, while the fine dotted lines indicate the subcutaneous parts of the silver wires connecting the several pairs of lead buttons.

Fig. 3.



I wish to direct special attention to the manner in which the lowest pairs of buttons, K L, are arranged, as I have found it very valuable in operations of this kind. While it is desirable, with a view to primary union, that the cutaneous margins should be everywhere approximated, it is of vital importance that the base of the flap, on which the supply of blood is in the first instance entirely dependent, should be protected from undue tension, or from pressure or traction by button or wire. With these objects in view the needle carrying the silver wire which was to connect the buttons was passed through the skin on the right-hand side considerably

[1] It is perhaps well that I should mention that this modification of the buttons was introduced before the publication of that suggested by Dr. O. Will, of Aberdeen, for a similar purpose (see *Brit. Med. Journ.*, June 21, 1879). The form described in the text will, I believe, be found at least as convenient as Dr. Will's, while it is more readily made, either by punching a lead plate, or cutting into the requisite shape with scissors.

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distant from the edge of the wound, and, being brought out at the wound, was entered again beneath the skin at the left-hand edge, and made to emerge at a distance from the wound corresponding with that on the right side. The wire passed in this way did not engage the flap at all, but simply lay beneath it across the raw surface of the wound; and thus when the buttons K and L were pressed home and secured, the result was that while the flap was left entirely unaffected, the edges of the skin at each side of it were, thanks to the yielding of the integument of the trunk, so much approximated that they could be stitched closely to the edges of the flap without undue tension. The sutures employed were of pretty thick silver wire, with here and there intermediate stitches of carbolized silk or purified horsehair for accurate coaptation. Intervals were left at G and M for the orifices of caoutchouc drainage-tubes. Relaxation of the skin of the back was also provided for by having part of the bandage which fixed the gauze dressing disposed in figure-of-8 fashion about the shoulders so as to keep them drawn backwards.

It so happened that the patient had reactionary bleeding that afternoon, a very rare thing indeed with us, such as we do not generally see from year's end to year's end, but it did occur in this instance, probably from some muscular branch, and before the dressing was changed the patient had lost a good deal of blood. Tossing about in restlessness she moved her shoulders very much, and by these movements tore out some of the stitches. In this way there was produced a gap towards the base of our flap, a circular opening about two inches in diameter (represented at M in the wood-cut) exposing the interior of the hollow wound. I wish you to see the appearances at this stage of the case. I hold my hand over the part of the dressing corresponding to the wound, while the bandages are being cut and the edge of the dressing raised, and only take away my hand when the spray has got fairly under the edge of the dressing, and is over the region of the wound. The wound is now exposed before you, and you see the circular window leading into the interior. We used to say before the introduction of the antiseptic treatment that, if a wound did not unite by first intention, suppuration was established in about four days in the adult in cool weather, and in about three days in a child in warm weather. Here twelve days have elapsed since the operation. Union by first intention was impossible throughout a large extent of this wound, not only on account of the gaping opening of the skin, but also because the under surface of the flap which was drawn over the hollow in the back was not in contact with the floor of the cavity. Yet observe we have no suppuration. I wish some of our friends who doubt whether the antiseptic treatment has any influence for good could see a fact of this kind. Twelve days with a great hollow wound like this, with an opening leading freely into it, and the tissues exposed, and yet not a drop of pus! Now, as I did not hesitate to say that the result which you witnessed in the case of empyema (see *Medical News and Abstract*, Feb. 1880, p. 72) could not have been obtained without antiseptic treatment, so I venture with equal confidence to affirm that the merely serous discharge which you see upon this dressing could not have occurred without antiseptic treatment of some kind; not necessarily the kind of antiseptic treatment we use, but something really effectually answering the purpose of keeping putrefaction out. That the dressing here used has been thus effectual allow me to give you evidence. That dressing has been on the patient two days; you see the oiled silk "protective" perfectly free from the dark discolouration which it would acquire within such a period if putrefaction occurred, and you can ascertain for yourselves as I pass it round that it has no odour of putrefaction. The dressing, then, has been truly antiseptic; it has, as a matter of fact, prevented putrefaction. Observe now the entire absence of inflammation about this wound.

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It has been so from the first. There is no inflammatory blush whatever, nor has there been from first to last. The day after the operation we saw that the upper part of this flap for about two inches in breadth presented a livid discolouration; looked as it were about to lose its vitality. I remarked to those of you who were present in the ward, that it did not follow that there would be any death of tissue, although I believe any practical surgeon who had seen the case then would have said that under ordinary treatment there must have been an extensive slough. I said I did not at all despair of this part, to a large extent at least, recovering itself; because, even supposing any portion of tissue has lost its vitality through defective circulation, and suppose that piece of tissue so dead does not putrefy, it does no harm to its neighbours from the mere fact of its being dead, any more than the dead intestinal tissue of the catgut with which we tie our arteries. Catgut is absorbed by the living tissues round about, and so may other dead tissues be absorbed and not in the least offend their living neighbours; whereas, on the other hand, if it does putrefy, the dead piece, being putrescent, becomes a source not only of irritation, but of caustic action to the parts immediately adjacent. For if one portion of tissue has lost its vitality through interference with the circulation, you may be quite sure in the immediate vicinity other parts will be weakened in their vital power from the same cause, just as in the case of senile gangrene, where we know the liability of gangrenous inflammation to spread. But here you see that the once livid patch has to a large extent recovered itself. It remained discoloured for several days, but we found on firm pressure with the tip of the finger that the colour could be dispelled, and it slowly reappeared when the pressure was removed, showing that the blood was still fluid in the vessels, whereas, if the tissues had been dead, the blood would have been coagulated. There now remains only a little piece of the extreme margin of the flap, an inch and a half long and about half an inch broad, which is not obviously alive. This little bit has actually lost its vitality, but here it remains after these twelve days still firmly attached to neighbouring parts, the stitches which connect it with the living skin still holding. It has induced no suppuration, nor excited the faintest inflammatory blush in the surrounding skin. There is not even an absolutely defined line of demarcation. That, again, gentlemen, would have been an impossibility without effective antiseptic treatment. But with such treatment it is a possibility, for I have seen it in larger sloughs than this, that this piece of dead tissue may be absorbed and never separate at all.

One other point about this wound is worthy of your attention. This window, that we see leading into the cavity, was at one time considerably bigger than it is now. It became encrusted at its borders by exuding liquor sanguinis, which, coagulating, formed a solid ring within it, and this exudation of liquor sanguinis has gone on, producing a broader and broader ring. The parts first formed, remaining free from putrefaction, have undergone organization, including vascularization, and the newly-formed vessels have continued to pour out plasma. And now, if we turn up the superficial layer of the coagulum at its outer margin, we see disclosed a ring of cicatrix. That is to say, the organization of the ring of coagulum has assumed the character of epidermic formation in the vicinity of the pre-existing epidermis of the cutaneous margin. And this process of cicatrization has been going on without the production of any pus, and even without the formation of any true granulations. I never happened to see anything exactly corresponding before. But this is, doubtless, simply because I never before had the opportunity of studying a window like this in a piece of skin stretched over a cavity. For we have here only a peculiar instance of what we are familiar with under antiseptic treatment, the organization of blood-clot and cicatrization proceeding under the superficial layer of the coagulum without the occurrence of

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suppuration or true granulation. It is by virtue of the same process of progressive exudation and organization of plasma that the cavity of the wound is being constantly reduced. We see, on looking through the window, that the floor of the cavity is not so far below it as it was; the hollow is becoming constantly shallower. Now, all this, gentlemen, presents what must seem to those who have not witnessed it a marvellous and incredible contrast with the old mode of healing by granulation and suppuration, which must infallibly have occurred without antiseptic treatment.

I now reapply the dressing. The protective, dipped in the 1 to 40 watery solution to destroy the septic property of any dust adhering to it, is applied over the healing wound. Immediately over this is placed a piece of the carbolic gauze, dipped also in the lotion, to insure that it is actively antiseptic when applied, for the dry gauze cannot be trusted in this respect, and over this the regular gauze dressing of ample dimensions. Remember the immense importance of having the protective overlapped well on all sides by the gauze. The protective, having nothing antiseptic in its composition, must be overlapped just as if it were itself a wound.

The bandage is so arranged as to brace the arms somewhat back, though that is not now so necessary as it was in the first instance. Here again, from the liability of the chest to movement, we use the elastic bandage—one piece round the shoulders and another round the waist—to keep the edges of the dressing constantly applied to the skin.

The attainment of the results which you have seen in this case depends not only on the efficacy of the antiseptic measures used, but also upon the use of an efficient protective, as we term it—that is to say, a layer of material employed to protect the healing part from the irritation of the antiseptic itself. And with reference to this point, I may mention that we have now a considerably better protective than we had some time ago. It still consists essentially of oiled silk, varnished on both sides with copal varnish. The copal varnish is the principal agent in this protective for keeping the carbolic acid out; it is much less permeable to carbolic acid than oiled silk is, although oiled silk itself is much less permeable to the acid than gutta-percha or caoutchouc is. The copal varnish, then, is the most important of the ingredients of which this protective is composed. Some time ago one of the manufacturers who supplied this protective, for reasons best known to himself, omitted the use of the copal varnish altogether, and supplied us with what was evidently mere oiled silk varnished with dextrine (which is put on outside the copal to insure that the material shall take an antiseptic film when dipped in carbolic lotion). We were supplied then with mere oiled silk brushed over with dextrine, and this is a comparatively ineffective protective. On the other hand, that which we now use is coated on both sides with specially thick copal varnish, and this makes it correspondingly effective. I understand that some persons object to this protective as being too thick and substantial. These gentlemen little know what a mistake they make in thus objecting to it. When it comes to be of the temperature of the body, it becomes perfectly soft and pliable; it applies itself beautifully to the part, so that there is no objection to it on that score. If we had not used a pretty effectual protective, we should not have had the kind of results you have seen in this case. If we had had a carbolic acid dressing acting directly on the tissues of that exposed wound we should have had before now granulation and suppuration—suppuration occasioned by the irritation of the antiseptic—"antiseptic suppuration," as I have termed it; and if we had had the gauze dressing directly applied to that piece of dead tissue, it would have been impregnated with the pungent antiseptic, and would have become chemically stimulating on the same principle, though in

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a less degree, as if it had been putrid; it would have stimulated its living neighbours and urged them to granulation and suppuration, and we should have had a piece of dead tissue already separated by antiseptic suppuration.

Again, if we had not used a pretty efficient protective, we should not have seen the blood-clot organized and cicatrizing without suppuration at the edge of the window in the skin. We should have seen it with a granulating and suppurating margin. I am induced to speak on this point because I believe the protective is often as yet imperfectly understood. A very eminent surgeon was round my wards some months ago, and he told me he had never seen the organizing blood-clot. I took him to two cases in which it was occurring. He was a man of scientific precision, and he at once said, "These cases are enough for me; I know from this time that an exposed blood-clot may become organized." How was it he had never seen it, for he had practised antiseptic treatment with great efficiency for years? The truth was, as he told me, he had not thought the carbolic acid partjcularly irritating, and he had never used any protective at all, and therefore had never seen an organizing blood-clot. I had sent to me some time ago, by a very distinguished Russian surgeon, this beautiful looking article—this transparent film,—which he told me he now always used in preference to our protective—a most lovely thing, certainly enough to charm us to use it by its mere beauty. But I found it would not stand the test which will enable you always to ascertain the quality of a protective. I took a piece of it, and put upon the middle of it a little bit of lint soaked with 1 to 20 carbolic acid lotion, and left it awhile; in the course of about half an hour, on applying the tip of my tongue to the other side, I perceived the pungent sensation caused by carbolic acid, showing that it had already gone through it; whereas, with a piece of this properly made protective, treated in the same way, you would find, after the lapse of three or four hours, absolutely no trace of the acid. Therefore, although this so-called protective is very pretty, it is scarcely a protective at all in the sense in which we use the term. It will keep the wound moist, and thus prevent the dressing from sticking to it, but that is nearly all it will do.

But worse remains to be told of this elegant article. The chemist who sent me the samples informed me that it contained thymol and salicylic acid in its composition; in other words, it was not only inefficient as a protective against the antiseptic, but it was actively antiseptic in its own substance. And he added, it could be made up with carbolic acid; showing that he had no idea whatever of the object for which we use the protective. It has been said sometimes that our dressings irritate wounds. The wound you have just seen is an instance to the contrary. It is not irritated; it is healing kindly, and not only so, but it shows very much less marks of irritation than you could get with any ordinary treatment that has been devised. But if surgeons use the antiseptic agent, whatever it be, in such a way as to act directly on the tissues, they will necessarily have their wounds more or less irritated according to the nature of the antiseptic they employ.

But, useful as a protective is in promoting the best kind of healing under an antiseptic dressing, I desire to say, by way of warning, that it would be infinitely better to use no protective at all than to employ it amiss; for, though at the risk of seeming tedious, I must repeat that in proportion to the efficiency of the protective in excluding the irritation of the antiseptic, is its power to exclude also its antiseptic virtue, and thus to conduct putrefaction inwards to the wound, unless it be overlapped well on every side by the really antiseptic element of the dressing.

[In preparing this lecture for the press I may add that, on examining the wound yesterday (Dec. 9th), I found that the still serous discharge had become so slight that my house-surgeons had allowed four days to pass without changing the dress-

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ing. The buttons had been removed several days before, yet the cutaneous margins remained everywhere in contact, except that a gaping of about three-quarters of an inch had occurred at the lower part of the window, M, after the removal of the buttons, K and L, which especially supported that part. But though the window had been from this cause temporarily increased in dimensions, it had since been reduced to less than its former size by the same mode of healing that it had before presented, and, while suppuration was still absent, the border of cicatrix had considerably increased in breadth. The window was occupied by a gray pultaceous mass of lymph, which was the nearest approach to suppuration that had been seen throughout the case. I clipped away about one-eighth of an inch of this gray substance with scissors, when blood oozed from the incision, showing that vascularization had occurred almost to the surface. The process of healing by successive exudation and organization of plasma, which I think has never before been distinctly described, but which this case has so beautifully illustrated, had entirely closed the great cavity of the wound. And the new tissue thus developed having, like new tissues generally, a tendency to shrink as it grew older and more perfect, the skin of the flap covering the cavity—which in the first instance was stretched straight across from scapula to scapula, had been drawn down somewhat into the hollow, so as to present a concave appearance, while the part felt firm and solid under the finger.

At the same time my anticipations of possible absorption of the slough without suppuration had been already partially justified. Whether the slough originally involved the whole thickness of the cutis or not, I have no means of knowing. Certain it is that the stitches which attached the edge of the flap at the site of the slough still retained their hold, and the border of the mass of dead tissue thus kept in contact with the healthy living skin had undergone a process of organization—that is to say, of substitution of living tissue elements for the dead which they absorbed—exactly similar to that which had occurred at the border of the window in the skin. And thus, without the slightest trace of suppuration and without the occurrence of granulation, a cicatrix about one-sixth of an inch in breadth had come to occupy the place of the upper border of the slough.]—*Lancet*, Dec. 20, 1879.

Hospital Notes.

Dislocation of the Upper End of the Radius Backwards.

Albert P——, aged fourteen years, a factory boy, applied to Mr. RIVINGTON at the London Hospital on Oct. 21st. He stated that whilst running he had fallen on his right arm, which was twisted (pronated) at the time, and that the back of the hand and elbow came in contact with the ground. He positively affirmed that prior to the accident there was nothing the matter with his elbow.

On examination a marked prominence was seen at the back of the joint below the external condyle and by the side of the olecranon process, evidently consisting of the displaced head of the radius. Flexion and extension were almost unimpaired; pronation and supination could be performed by the surgeon, but not to the full extent; supination especially was diminished, and the patient could not affect it himself to the same extent as the manipulator; there was no crepitus or other evidence of fracture, the head of the radius rolling freely under the finger during examination; there was a bruise over the head. A persevering attempt to reduce the bone was made under chloroform by Mr. Clark, the house-surgeon, without result. The patient was taken into the house, and later in the

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day was taken up to the theatre for Mr. Rivington to examine. As the lad adhered to his statement that the displacement had not existed before the accident, chloroform was again administered and extension made in various positions, with pronation, supination, and pressure on the head of the bone, for about ten minutes, but in vain. He was sent to bed, and evaporating lotion was applied. No swelling or increase of heat followed, and on the following Monday he was again examined under chloroform, being seen also by Mr. Hutchinson and Mr. Tay, who noticing some thickening in front of the head, suggested that perhaps a portion of the articular end of the humerus had been detached and prevented reduction. The following day the mother of the boy was interrogated, and it then transpired, as had been suspected, that the displacement was not recent, having occurred at least five months previously in a scuffle which the lad had had with an enraged landlady, during which he was violently shaken by the forearms, and fell striking his right elbow against the leg of a table. He told his mother his arm was broken, and after the subsidence of the ensuing swelling, the lump at the back of the arm was noticed, and it had been there ever since.

Remarks by Mr. RIVINGTON.—There are several points of interest in this case, the chief being the amount of mobility of the joint possessed by the patient before leaving the hospital. He could flex the elbow fully, and extend it almost as completely as on the sound side. Although occasionally rotating the humerus when asked to turn his hand over, he could, when the humerus was confined, pronate well, and supinate to rather more than half the natural extent. The positive assurance of the patient that the displacement had not existed previously led me to speculate on the causes of the impossibility of reduction, and it occurred to me that possibly the head of the radius might have slipped out of the orbicular ligament, instead of tearing it away from the margins of the lesser sigmoid cavity, or that the peculiar shape of the head was the obstacle, having slipped perhaps, through a rent in the ligamentous or aponeurotic structures at the back of the elbow-joint, and become fixed more or less, like the head of a stud in a buttonhole. The notable absence of swelling and increased heat, and the remarkable mobility, so suggestive of an old injury, led me to make further inquiry and prevented me from bringing the case forward as one of recent injury in which reduction could not be effected. The statements of patients are seldom to be implicitly trusted, possibly those of juveniles should be altogether disregarded without confirmatory testimony. The mother and patient have been advised in case of any future bruise to inform the surgeon that the displacement is an old one, and obviate the possibility of any future attempt at reduction. It would be interesting to learn some years hence whether the mobility remains. In the only two dissections known to me, the head of the radius has contracted fresh connections. In the specimen in St. George's Hospital Museum the new attachments formed by the ends of the orbicular ligament with the humerus prevented pronation and supination. It is probable that the articular ends of displaced bones are particularly liable to undergo changes similar to those seen in chronic rheumatic arthritis, and fresh bone sometimes forms in their neighbourhood. Hamilton states that Dr. Markoe believes that this dislocation, which is a rare one, never occurs as an uncomplicated accident. Certainly there was no sufficient evidence of any fracture of either condyle of the humerus or of the articular surface of the humerus in this case, whatever might be the suspicion from the thickening observable. The head of the radius was displaced more directly backwards than is usual according to the descriptions of books, not lying in anywise behind the external condyle, but a little overlapping the articular end of the humerus. It appeared to be placed outside the oblique outer margin of the anconeus muscle.—*Lancet*, Dec. 27, 1879.

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Empyema treated by Free Incisions with Antiseptic Precautions.

George H., aged 4; admitted into King's College Hospital, under the care of Dr. PLAYFAIR, Oct. 16, 1879, with albuminuria (one-third); no history of scarlatina, and no lung symptoms. On Oct. 20, slight rigor, temperature running up from 97° to 103.6°, and at about the same date dulness over the left base first noticed. On Oct. 25, dulness more marked; left side measures an inch more than the right; feeble entrance of air over whole left side; heart displaced to the right of median line; temperature zigzag. On Nov. 1, breathing feeble and jerky; 54 per minute; pulse 144 per minute; great distress. Ordinary small trochar and canula introduced below the fifth rib, but no fluid escaped. On Nov. 2, breathing and general distress more marked. Aspirated at 9.30 P. M. about 3 to 4 ozs. of healthy pus, drawn off with immediate relief, temperature dropping from 102.6° to 98.2°, and the breathing from 48 to 36 per minute.

On Nov. 5, as the distress was still very great, and there was every evidence of fluid still remaining in the pleural cavity, it was decided to operate. At 2.30 P. M., Prof. Lister made an incision about one inch long connecting the two previous punctures. The usual antiseptic precautions were observed, and an ordinary drainage-tube introduced. During the operation between 6 to 8 ozs. of sanguineous fluid escaped, and a quantity of fibrous deposit was felt between the two layers of pleura both above and below the opening. Since operation the acute symptoms have gradually subsided, and with the exception of a short rise from the 11th to the 17th, which was probably due to the kidney mischief, the temperature has been comparatively normal. There has been but little discharge from the wound, which is now dressed antiseptically about every fourth day. About fourteen days after the operation a short silver tube with a shield was substituted for the India-rubber drainage-tube, as being less irritating and cleaner. The breath sounds can now (Dec. 22) be heard perfectly all over the left side of the chest; the heart has gradually returned to its proper position; and, in fact, the child may be said to be practically convalescent.

Remarks by Dr. PLAYFAIR.—This case is peculiarly interesting as affording an excellent example of the application of the strict antiseptic method to the treatment of empyema in children. He had long been convinced that the great desideratum in the management of such cases was some plan by which continuous drainage could be obtained without the admission of air into the pleural cavity. In the fourteenth volume of the *Obstetrical Transactions*, in a paper "On the Treatment of Empyema in Children," he had published a series of cases in which he had attempted to do this by a system of continuous sub-aqueous drainage, one end of the drainage-tube being in the pleural cavity, the other in a vessel of water under the bed. The results were on the whole good, but the practical difficulties in the way of carrying out the process were considerable; and, in several of the cases, it was found impossible to prevent the entrance of air by the side of the tube. He had felt convinced that the antiseptic system, which admitted of the pleural cavity being laid freely open, without the risk of the exhausting effects of long-continued purulent discharge, afforded the best hope of a satisfactory result. This case, which was the first in which he had had the opportunity of carrying it out, remarkably corroborated this expectation. In itself it was an unfavourable case, on account of its severity and the co-existence of renal complications. In spite of these drawbacks the result was most satisfactory. From the moment of the operation the child began to improve. There was next to no purulent discharge and the lung rapidly expanded. The fact that the dressings required to be changed only every third or fourth day much simplified the management of the case, and he felt convinced that the antiseptic method afforded a marked advance in the means at our disposal for the treatment of this most severe and troublesome class of disease.—*Obstet. Journ. of Great Britain*, Jan. 15, 1880.

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MONTHLY ABSTRACT.

Anatomy and Physiology.

On the Hymen.

Dr. BUDIN (*Annales de Gynecologie*, Nov. 1879) has made several dissections of the vagina and vulva in virgins, and has found that the hymen is in reality constituted by the anterior extremity of the vaginal canal. The vagina may be regarded as the finger of a glove presenting at its anterior extremity a circular orifice. This circular perforated extremity of the finger of the glove comes forward and insinuates itself between the labia minora, where it juts out and forms what is called the hymen. The dissection showing this has been repeatedly made by Dr. Budin, and always with the same result. When the dissection is carried out completely, he is able to remove the uterus and the whole of the vagina; and with the removal of the vagina, which is easily separated from the surrounding structures, the hymen is found to have completely disappeared.

Absorption by Granulations.

The idea that granulations are good absorbing surfaces is one which few at the present day would be disposed to entertain. For it has been generally supposed that, as soon as a wound had granulated, the patient was free from any further danger of absorption of noxious materials; and those cases in which symptoms of blood-poisoning supervened after this period were supposed to have received the poison before granulation was complete. And yet, several facts have been for some time known which demonstrate that some substances at least may be introduced into the circulation in this way. Thus Bonnet, in 1852 (*Gazette Médicale de Paris*), confirmed the observations previously made as to the absorption of strychnine by granulating wounds; and he further pointed out that the same was the case with iodine, more especially when applied in the form of an ointment.

The paper just published on this subject by Dr. HACK (*Deutsche Zeitschrift für Chirurgie*) furnishes many new facts of the greatest interest and importance. He was led to his investigation by the following circumstance. A patient was admitted, under the care of Professor Maas of Freiburg, with a very large prostatic abscess, which had burst into the rectum. This was followed by pyæmic abscesses in various parts of the body; the patient soon became extremely weak, and it was found impossible to administer food or stimulants by the mouth. Under these circumstances, Professor Maas determined to introduce stimulants into the abscess cavities, in the hope that they might be absorbed. Camphor-wine was accordingly, from time to time, injected into several of the abscesses; and, a few minutes after each injection, the marked improvement in the pulse showed that absorption had to some extent taken place. In a few days the patient regained his appetite, and was ultimately completely restored.

The chief questions which Dr. Hack has attempted to answer are: What is the absorptive power of granulating wounds at different periods, as compared with that of freshly cut surfaces? Does the form in which the substance is applied, or the manner in which the wound has been treated, affect the result? A large piece of skin having been removed from the back of a dog, a suitable

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dressing was applied; and in four days, granulation being then complete, this wound was tested as to its absorbing power. Two classes of substances were used, viz., such as could be found in the urine—as ferrocyanide of potassium, salicylic acid, sulph-indigotate of soda; and such as showed their presence by the production of constitutional effects—as pilocarpin and apomorphia. Applied in the form of solution to a sore four days old, treated with water-dressing, the ferrocyanide appeared in the urine in seventeen to twenty minutes; while the same substance, applied in solution to a freshly cut surface, was detected in fifteen minutes. When used, however, in the form of ointment, it was absorbed much more rapidly: and this was still more marked when the salt was sprinkled over the wound in the form of a powder. A similar result was obtained when pilocarpin was employed, the ointment and powder producing constitutional effects more quickly than when applied in the same quantity to a freshly cut surface of the same size. Apomorphia was absorbed from wounds thus treated only during the twelve hours immediately after their infliction. As the wounds became older, it was found that, though the first traces of absorption of the ferrocyanide could still be detected about the same period as in those four days old, yet no marked precipitate could be obtained in the urine till some minutes later. That this diminution in the quantity absorbed in a given time depended on the smaller extent of absorbing surface, and not on any alteration in the granulations, was shown by comparing old wounds with portions of more recent wounds of the same size. Chloride of zinc, applied in an 8 per cent. solution, at once arrested absorption by the granulations. This was also very much diminished by the use of alcohol. Sloughs, caused by the application of strong carbolic acid, absorbed with extreme readiness. Glycerine also aided absorption. Where the wounds were treated antiseptically, very remarkable results were obtained. Granulating wounds thus treated absorbed both more rapidly and in larger amount than even freshly cut surfaces; and substances such as apomorphia, which could not be taken up by wounds treated by water-dressing, produced their physiological effects with great rapidity in this instance. Even after the removal of these dressings, about two days elapsed before the granulations assumed the characters of those treated from the first with water-dressing.

The importance of these facts cannot well be overrated; and it is to be hoped that, attention being thus directed to this subject, more exhaustive investigations will soon be forthcoming. More especially is it necessary to repeat these experiments with putrid substances; for, if it be the fact that granulating wounds, treated antiseptically, can absorb putrid materials more readily than freshly cut surfaces, the practice which some adopt of only treating such cases as compound fractures antiseptically till granulation is established, and of then applying septic dressings, must be dangerous. Dr. Hack, indeed, states that he has observed that erysipelas is especially apt to attack granulating wounds which have been treated antiseptically, if the antiseptic dressings be left off while these wounds are still of large size.—*British Med. Journal*, January 3, 1880.

Materia Medica and Therapeutics.

Preparation and Use of Albuminate of Iron.

Dr. W. Donitz, of Tokio, Japan, in the *Berlin. Klin. Wochenscrift*, 1879, No. 36, says that the Japanese are peculiarly liable to anæmia, induced by gastric and intestinal catarrh. In searching for a proper form of iron for adminis-

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tration in his numerous cases, he has hit upon the albuminate, which is made up as follows. The whites of one or two eggs are beaten up with about five ounces of water, while six drops of solution of chloride of iron of the German Pharmacopœia are dissolved in an ounce of water in another vessel. The iron solution is then added gradually to the albumen, the mixture being continuously and vigorously stirred meanwhile. At first the mixture is cloudy, but by thorough stirring it becomes almost or quite clear. The cautious addition of a few drops of hydrochloric acid clears up the solution, but this is hardly necessary if the stirring process has been well carried on. When the solution is cloudy or contains clots of albumen, it may easily be filtered. The filtered fluid is brought up to six ounces, so that a tablespoonful will contain one-half drop of the iron solution. For convenience of dispensing the albuminate of iron, it may be dried into thin scales and powdered, since it is easier to dissolve this powder in water than to prepare a fresh supply of the moist albuminate. Dr. Donitz has employed this preparation for the past two years with great satisfaction. It can be given in cases where the stomach is so weak that no other preparation of iron is tolerated. The dose is a tablespoonful thrice daily. Hypodermically, Dr. Donitz has given the preparation in doses of one-eighth of a grain or more in an ordinary syringeful of solution, of which one-half was injected in one locality and the other half in another at one time. No abscesses followed.—*London Med. Record*, Jan. 15, 1880.

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On the Transfusion of Blood by Injection into the Peritoneal Cavity

In an address delivered on the 25th July before the Silesian Society "für Vaterländische Cultur" (*Medicinisch-Chirurgische Rundschau*, page 876, 1879), PONFICK gave a very promising report of the results which he had achieved by the simple method of transfusing defibrinated blood into the peritoneal cavity. After briefly reviewing the history of ordinary methods of transfusion, their complication, and the rarely favourable results which followed, he related that in the course of researches which he had been making, for some years, with his pupil Dr. Corda, upon dogs, he had injected into their peritoneal cavity normal as well as defibrinated blood. A very remarkable difference showed itself in favour of the defibrinated blood, which not only excited very little or hardly perceptible local irritation, but also was found to have disappeared very quickly from the peritoneal cavity, and to have been absorbed into the general circulation. Encouraged by the favourable result of experiments on animals, he recently undertook this kind of transfusion in three patients in hospital. In these cases also the result was favourable in that the slight feverishness and the little tenderness of the abdomen which followed the operation, very quickly passed away.

The apparatus with which the transfusion is made is extremely simple. It consists of an India-rubber tube, to one end of which is connected a piece of glass tubing, and to the other a sharp pen-pointed canula, which can be closed by a tap. After the whole of the tube is filled with defibrinated blood, the point of the canula is pushed through the abdominal wall, the tap is opened, and the defibrinated blood is poured, to the required quantity, through into the peritoneal cavity. Such a proceeding causes no distress to the giver of the blood, and causes to the patient discomfort hardly worth naming, or indeed no pain at all. It unites, therefore, great quickness with ample precision as to the quantity of the transfused blood. Above all, it is free from danger to the heart, lungs, or brain; and, further, within the course of the first day a considerable effort may be counted on, which is greatly increased by a second transfusion. In reply to questions, Dr. Ponfick stated that more blood can be infused this way into the body than in any other. Thus, in his first case, he had transformed 240 grammes, in his second

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350, in his third 220, without having reached, in his opinion, the maximum quantity. In answer to a question from Dr. Spiegelberg, whether an injection into the peritoneal cavity is really equivalent to transfusion, or is only to be considered as a mode of nutrition due to the destruction of the blood infused, and its use as a nutritive fluid, Ponfick replied that neither in any of his patients, nor in any of the animals of research, was hæmaglobinuria observed, whereas a very limited amount of destruction of blood-corpuscles very soon shows itself in the urine.

Since the reading of Ponfick's paper, BIZZOZERO and GOLGI have undertaken a research which they publish as an original contribution in the *Centralblatt für Medicin. Wissenschaft*, Dec. 20, No. 51, in which they fully confirm by examination of the quantity of hæmaglobin in the circulating blood, the results of Ponfick. Their conclusions are these. The blood-corpuscles injected into the peritoneal cavity do really penetrate into the circulating blood-mass; for, so soon as twenty minutes after the injection, they found in the circulating blood a considerable increase of the percentage of blood-corpuscles. The maximum of this increase they found took place on the first or second day. This increase of hæmaglobin had a direct relation to the quantity of blood injected within certain limits. The most considerable increase in hæmaglobin which they observed, did not exceed fifty-seven per cent. of the original quantity of hæmaglobin in the circulating blood. The increase of hæmaglobin caused by the injection lasted more than a week. In one animal, which they kept for twenty-seven days, there was still a slight increase of percentage of hæmaglobin to be observed. After the maximal point of increase obtained, however, at the end of the first forty-eight hours, a progressive diminution of this decrease followed, although the quantity still remained greater than before. The increase of hæmaglobin was obtained in sound animals as well as in those which had been made anæmic by bleeding. But the maximum of hæmaglobin appeared much more quickly in the latter than in the sound animals. Altogether, their researches speak strongly in favour of peritoneal transfusion of blood, since it is further noticed that in no case was the operation accompanied by any noteworthy disturbance of the health of the animal.—*London Med. Record*, Jan. 15, 1880.

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Cold Clysters.

J. LAPIN (*St. Petersburg Med. Wochenschr.*, 1879, No. 22) has continued the investigations of Folty, Ruthenberg, Boyer, and Schlykowa, upon the antipyretic action of cold clysters. The experiments were made upon patients suffering from fever, upon those who had no fever, and upon those who were healthy. The temperature was taken in the axilla whilst the patient lay on his back, as well as in the rectum and in the hypogastric region. The clyster of one litre of water at 5° or 10° C. was then administered, and the temperature was again noted after the water had been ejected. From this method of experiment the following results were obtained: (1) The cold clyster is an active agent in lowering the temperature, its results being tolerably persistent. (2) Clysters of 10° C. were in every case well borne by the patients, and sometimes left behind them an agreeable sense of invigoration extending over the whole body, though in other cases they induced unpleasant sensations in the abdomen. In patients suffering from recurrent fever they even produced shivering. (3) The diminution in the temperature which occurs after the administration of cold clysters is greater in feverish patients than in those who are free from fever or who are healthy. (4) Cold clysters not only lower the temperature, but also affect the pulse and respiration to a considerable extent. (5) The most marked diminution is noticed in the

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rectum and then in the hypogastric region, whilst the least fall is in the temperature of the axilla. (6) Defecation follows the use of cold clysters at variable times in different persons. (7) It is certain that the cold is preferable to the warm clyster in all cases in which an enema is merely required for the purpose of emptying the bowels in non-febrile patients. This is especially the case when it is desirable that these intestines should exercise a tonic action after the evacuation, or that it should be followed by a diminished supply of blood to the pelvic organs. (8) The advantage of the cold clyster over more energetic antipyretic means, such as quinine, alcohol, sodium, salycilate, and other tonics, consists apart from its simple application in the fact that it fulfils other indications besides that of lowering the temperature. (*a*) It removes the stagnation of masses of feces, which are so frequently met with in feverish patients; (*b*) It contributes to the removal of gases, and diminishes meteorism; (*c*) By these means it causes the diaphragm to move with greater freedom, and enables the organism to remove the sources of its self-poisoning by means of the intestinal gases, a poisoning which must occur if only to a small extent at each stoppage in the movement of the feces onwards; (*d*) Cold clysters consequently lessen to a certain extent the afflux of blood from the intestine to the neighbouring organs, such as the uterus and urinary bladder.—*Practitioner*, Jan. 1880.

Medicine.

On Morbid Local Temperatures.

In relation to Prof. Peter's communication to the Académie de Médecine on Morbid Local Temperatures (*Medical News and Abstract*, February, 1880, page 95), Prof. BROCA, at the meeting of the Academy on December 30, related the researches which he had been engaged in on the subject. His communication is published in full in the *Bulletin* of that date, but is too long for insertion otherwise than by abstract.

Prof. Broca, after referring to the observations made long since by Forster, Hodgson, Demarquay, and others, on the influence of ligation of vessels on the temperature of the limbs, adverted to his own thermometrical observations both in individuals the subjects of spontaneous obliteration of the arteries of the lower extremity, and in those the subjects of embolism of these vessels. He has ascertained that the application of the thermometer enables us to distinguish simple localized embolus from the obliteration of the arterial system of the limb—a point of great importance in surgical practice, since, in the former case, when the obliteration is localized, we may by amputation cure the patient of the gangrene caused by this partial obliteration; while in the other case an operation would be useless, as it would be followed by gangrene of the wound. In embolism, then, thermometrical investigations have established that the temperature is increased at the level of the lesion, while it is at first diminished in the parts situated below this, but is afterwards re-established on the re-establishment of the collateral circulation. But if in place of embolism there is obliteration throughout the extent of the arterial system of the limb, the depression of temperature caused by the suppression of the circulation persists in consequence of the impossibility of the collateral circulation being established. If a thermometer is applied under these circumstances the temperature is found to keep diminishing from the root to the extremity of the limb. Prof. Broca states that on sev-

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eral occasions he has been able to determine, by means of the thermometer, whether the gangrene of a limb has been due to an embolic obliteration or to a general obliteration, and to employ the indication thus furnished in determining the propriety of surgical intervention.

His researches concerning the temperature of limbs after ligature and obliteration of arteries led M. Broca to an investigation of cerebral temperature, which he commenced in 1865 while engaged in his researches for the determination of the convolution of language. The employment of the thermometer enabled him to establish the diagnosis of acute and chronic *ramollissement*, and to determine on which side the cerebral lesion existed. For these researches he fixed around the head of the subjects submitted to his observation a crown of thermometers so disposed as to lead to as little loss as possible of heat by radiation. By his experiments made on individuals in a physiological condition—*internes*, *externes*, *infirmiers*, etc.—he ascertained that during cerebral work an increase of temperature is observable opposite the frontal lobe, while opposite to the temporal and occipital lobes no change is observable. Among the applications of thermometry in cerebral pathology, M. Broca first adverts to the observations which he has made on persons the subjects of old torticollis. Under the influence of this lesion they undergo an atrophy of the face and of the cranium, which exhibits a deformity analogous to that which has been described in the pelvis by Naegele, and termed by him the oblique oval pelvis. The temperature is diminished from four to six-tenths of a degree on the side on which the deviation exists; and although this difference is very slight, and at a given moment insignificant, it exerts in the long run a considerable influence on the nutrition and development of the cranium and brain. No cerebral disease exists; but the conditions of the circulation are not the same, the obstacle to the passage of the blood being greater, owing to the increased inflexion of the carotid at its entrance into the cranium on that side.

But a much more important application, in a practical point of view, is that which consists in the diagnosis of cerebral embolism. This lesion has almost always its seat in the Sylvian or middle cerebral artery, and the temperature is indicated in the temporal region—a diminished temperature therefore being observable when this artery is obliterated. In this way Sylvian embolism is distinguishable from congestive or inflammatory cerebral or meningeal affections, which, like it, may affect the faculty of language. But partial atrophies and chronic *ramollissements*, followed by absorption of the cerebral cortex, which is replaced by a collection of serosity, may also give rise to a diminution of temporal temperature, and this has to be distinguished from that arising from embolism. Here is shown the analogy which exists between Sylvian embolism and femoral embolism. When the Sylvian region ceases to receive blood by its artery, blood is brought to it by the collateral channels, that is to say, by the vessels furnished by the pia mater, the branches of the anterior cerebral artery, and those of the posterior cerebral. These branches and the vascular networks which emanate from them become, therefore, the seat of an exaggerated circulation; and we then find that the occipital thermometer, and especially the frontal thermometer of the bad side, exhibit a higher temperature than those on the healthy side. This elevation of temperature, coinciding with the depression of the temporal temperature, characterizes Sylvian embolism—just as the elevation of the temperature of the knee, coinciding with the depression of the temperature of the foot and the leg, characterizes the obliteration of the lower part of the femoral.

Diagnoses of this kind are interesting in themselves, as they are also for prognosis, without any clear therapeutical indications being deducible from them; but

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there are also cases in which thermometrical exploration of the brain may render great service to the surgeon. It is acknowledged at the present day that simple depression of the cranium should not be treated by trephining, the injured persons recovering better without resorting to it, and their recovery generally proving definite. But it is also known that certain individuals who have survived these injuries may, at the expiration of some months, some years, or even many years, become epileptic and present signs of chronic meningitis or encephalitis, which are reasonably attributed to the irritating action of bony fragments thrust in towards the cavity of the cranium. Under these circumstances many surgeons have had recourse to the trephine, and many successful results of such interference are on record. Still, this is an operation not lightly to be resorted to; and a man who has suffered from a depression of the skull is not thereby assured from ordinary cerebral affections; and the question arises, when cerebral symptoms appear a certain time after fracture with depression, whether they are or are not the consequence of the depression. This important diagnosis may be assisted by the study of cerebral temperatures. If there be an excess of heat at the level of the old seat of injury, we may admit that this is the seat of the cerebral irritation. But if the temperature here is normal, while a maximum of elevation is exhibited at some other point, we are led to an opposite conclusion, and trephining, indicated in the former case, is here inadmissible.

Prof. Broca agrees with Prof. Peter that the ordinary medical thermometer is the one best suited for these investigations. The scale of the one which he employs, however, extends from 17° + C. to + 43° C.; and the results are only obtained after a long application. To overcome this inconvenience, he had at first the idea of employing thermo-electrical instruments; but, having consulted MM. Froment and Foucault on the subject, they advised his employing the mercurial thermometer. It is this also that M. Béclard employs in his researches on muscular heat. Seguin's thermometer is not calculated for these investigations, as it does not admit of being attached to the part investigated; which, owing to the time required for ascertaining the temperature of the deeper parts, is necessary.—*Med. Times and Gazette*, Jan. 17, 1880.

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Sir William Jenner on the Treatment of Typhoid Fever.

(*Concluded from page* 90.)

In hemorrhage from the bowel in typhoid fever the blood comes from the floors of the ulcers; the most copious hemorrhages occur at the time of the separation of the sloughs; by the separating of the slough a vessel of some size may be opened. Under such circumstances the hemorrhage is very copious, and the patient may even die on the chamber utensil. Much more frequently the blood, although considerable in quantity, escapes from minute vessels on the floor of the ulcers. I have never known it escape from the mucous membrane, though I have from the hemorrhoidal veins. Although in the majority of cases the bleeding is arrested by nature, the blood lost relieving the vascular fulness of the part, still reliance should not be placed on this natural cure.

When blood in ever so small a quantity is observed in the stools, the patient is to be kept in the recumbent position. He should not be allowed to make any effort, and on no consideration to sit on close-pan or raise himself or be raised by others to pass urine, etc. If the patient is unable to pass urine when in the recumbent position, the urine should be drawn off by catheter. All movement of the bowels should be restrained as far as possible and for as long as possible. An ounce of starch-water with ten or fifteen drops of laudanum may be given at once as enema, and then a dose of acetate of lead every two or three hours by the

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mouth, with three to five drops of laudanum, or fifteen grains of gallic acid in a wineglass of iced water every two or three hours with the laudanum. I think I have seen benefit from small doses of turpentine. It is a point of the greatest moment to keep the bowels empty, and therefore nourishment should be given in the most concentrated and absorbable form—*e. g.*, essence of meat in tablespoonful doses frequently repeated. All nourishment which leaves solid residue—*e. g.*, milk—should be avoided. Lumps of ice should be sucked, and all essence of meat, etc., be iced. When the loss of blood is sudden and copious, or is frequently repeated, the subcutaneous injection of ergotine may be employed, and an ice-bag applied over the region of the ileum. The faintness due to considerable sudden bleeding from the bowel should not be removed by stimulants unless it immediately threatens life.

Perforation of the coats of the intestine by the extension of the ulcer in depth, and finally by sloughing of the peritoneum is, so far as my certain experience goes, always fatal. I have recorded one case in which this lesion was supposed to have occurred, and to have been repaired, but the patient dying some weeks after of erysipelas of the head and face, I found the perforation was not of the intestine, but of the peritoneum over a softened mesenteric gland. If adhesion occur over the perforated spot of intestine, my experience accords with that of Rokitansky—namely, that such adhesions are never permanent—*i. e.*, permanent enough to permit the recovery of the patient. To give the patient a chance of recovery, absolute rest in the recumbent position must be maintained, and opium be given in quantity sufficient to stop all action of the bowel, and to subdue pain if pain be present. For pain, although in some cases most severe, is altogether absent in others, and this although the patient is perfectly sensible—not only conscious enough to feel pain, but able to tell those about him all he does feel. As any adhesions that form are so easily broken down, inaction of the bowels must be maintained for as long as possible.

Tenderness of the abdomen is not limited to inflammation of the peritoneum from perforation of the intestine; there is often inflammatory vascularity of the peritoneum corresponding to the floors of the ulcers in the intestine, and even lymph may be found thickening the membrane or fixing it to adjacent parts. When death from other conditions has occurred, I have not infrequently found this local preservative lesion to have been attended by very considerable tenderness of the abdomen. A like degree of tenderness arises from local peritonitis over the enlarged mesenteric glands, and also from the mesenteric glands themselves being inflamed from the absorption of irritating matter from the intestinal coats or contents. Warmth and moisture afford relief in the majority of cases, but if the temperature be high, and the tenderness superficial, an ice-bag to the part may be more beneficial, and more grateful to the patient. But the chief indication is to keep the tender part at rest, and to correct the fetor of the stools.

Tenderness in the left hypochondriac region, due to the state of the spleen, is not uncommon in typhoid fever. Enlargement of the spleen is one of the symptoms of most, perhaps of all the acute specific diseases; tenderness of the organ is only occasionally present. It is during the third week of typhoid fever that tenderness of the spleen usually reaches its maximum. When the tenderness is considerable it is a symptom of grave import; the tenderness is not due to local peritonitis, but to the condition of the proper substance of the spleen. For the relief of the state of the spleen indicated by tenderness, although a symptom of great significance in prognosis, I know no remedy of much importance; the application of warmth and moisture over the organ has sometimes seemed to be of service.

From the commencement of typhoid fever the temperature of the patient is

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elevated. This elevation of temperature is the direct result of excess in destruction of all the tissues of the body. The patient loses weight, and continues to lose weight so long as he is the subject of the fever, so that Zimmerman, fixed the duration of typhoid fever by ascertaining how long after the onset of the disease the patient ceased to lose weight. In local inflammation the temperature of the inflamed part is greatly in excess of the temperature of the body generally. In uncomplicated typhoid fever the elevation of temperature is practically uniform in all parts of the body. Local inflammation, blood-infection, and nerve-disturbance, are common causes of great increase of the temperature above that *proper* to any given case of typhoid fever—*i. e.*, due to the action of the fever poison on the system generally. Thus inflammation of the mesenteric glands is frequently excited by fetid or acrid matters conveyed to them by the lymphatics from the raw and inflamed intestine, and blood-infection may owe its origin to the same cause. Congestive nephritis and pneumonia are common lesions in typhoid fever, and are common causes of increase of temperature. The power of the nervous system to raise the temperature, or to produce sudden changes which raise the temperature, in typhoid fever, is well illustrated by the sudden rise which frequently follows mental emotion. I have known the temperature start from this cause from 102° to 106°. In the progress of typhoid fever local inflammations cause more or less permanent elevation of temperature; blood-infection rapid, and sometimes temporary, always varying, elevations of temperature; nerve-disturbances rapid and often transient elevations of temperature.

The treatment of typhoid fever by cold baths, when the temperature reaches 104°, or even less, is very generally adopted in Germany; but neither my own limited experience nor the evidence adduced by others in its favour has carried conviction to my mind of its advantage. At the same time I entertain no doubt that the direct cooling of the body is in some cases essential to the preservation of the life of the patient—gives him, so to say, his only chance of recovery; while in others it alleviates the severity of a symptom which increases the danger of the patient.

A certain degree of elevation of the body is incompatible with the favourable progress of the case. Thus a temperature of 106°, rising to 107°, and still advancing, will, unless lowered by treatment, speedily end the life of the patient; for these fortunately very rare cases the direct and rapid depression of the patient's temperature by the cold bath is essential—is the only source of hope. Again, a temperature of 105°, if continuous for forty-eight hours, or broken only by a slight fall of short duration, may itself, by the degenerative changes it favours or produces in the heart and other organs, cause the fatal termination; for these cases a tepid bath gradually cooled down is sufficient to bring down the temperature; the bath has to be repeated as the temperature rises. Persons at an age when degenerative changes of tissue naturally occur suffer more from continued high temperature than do younger persons. If the disease be advanced, the skin dry, the patient prostrate, and the internal organs congested, especially the kidneys, a tepid or warm pack is often followed by marked improvement in temperature and in the other symptoms. When the temperature is for some time 103½° to 104½°, and even higher, cold effectually applied to the head (*e. g.*, by the India-rubber tubing cap) will often suffice for its reduction—reduction, that is to say, not only of the temperature of the head, but of the body generally; when the temperature falls the cap should be removed, but be reapplied as often as it rises again. Tepid sponging will reduce the temperature a little, and soothe and quiet the patient if he be restless and sleepless.

Thus limiting the employment of direct means of lowering temperature, I have seen none of the ill effects which are said occasionally to follow its vigorous

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use—viz., collapse and failure of the heart's power; while I have seen what has appeared to me to be indisputable good follow its employment.

Other means are used to reduce temperature. When the high temperature is conjoined with rapid feeble heart's beat, when the patient is advanced in years, or when the extremities feel cold, though the temperature of the body generally is high, a fall of temperature frequently follows the administration of alcohol. Quinine, in occasional large doses or in smaller doses repeated at intervals, has been followed by reduction of the temperature in typhoid fever. Salicylate of soda is also said to have a like effect. When judging of the effects of these and other drugs for reducing temperature, one must not lose sight of the fact that sudden fall of temperature when no drug is given is of not unfrequent occurrence, and also that the temperature varies daily. This natural fall of temperature I have seen attributed to the drug. I must say that I have been disappointed in the effects of the two drugs I have named as reducers of temperature, while I have seen both occasionally do much harm by disturbing the stomach and interfering with digestion. In a disease which runs a limited course, like typhoid fever, the greatest possible care should be taken to preserve the powers of the stomach, as the life of the patient may depend on his power to digest nourishment towards the end of the disease.

Typhoid fever cannot be cured by perspiration, but the patient suffers much less discomfort and is less restless when the skin is gently moist. The most certain means for producing gentle perspiration I know is the application of a large warm and moist flannel covered with oil silk over abdomen and chest, and the administration of warm bland fluids. In the later stages of the disease, profuse and most exhausting perspiration sometimes occurs. The perspiration is kept up and greatly increased by the heat of the patient's body and the moisture of the perspiration itself. To prevent chill, the nurse carefully covers the patient; thus, with a relaxed skin disposed to sweat, he is kept, so to say, in a prolonged vapour bath. I have seen lives lost from the asthenia thus produced. To restrain this profuse perspiration, the patient's skin should be dried with a warm napkin every few minutes if necessary, and dry clothes placed between the wet linen and the skin. Alcohol should be given at the same time to stimulate the nervous system and increase the force of the heart's action. Sponging with tepid vinegar and water is sometimes of much service.

The state of the heart, as indicated by the frequency of its beats and the strength of its impulse, has always been considered of the greatest significance in determining the treatment to be pursued at any moment in a case of typhoid fever. As a rule, the weaker, the more frequent are the heart's beats. This feebleness and rapidity in excess of that proper to the fever may be due—(1) To changes in the muscular tissue of the heart: *e. g.*, softening with granular degeneration passing into fatty metamorphosis of the muscular fibres. No doubt the occurrence of these changes is favoured by long-continued high temperature of the blood. (2) To the circulation of poisoned blood through the vessels of the walls of the heart; the poison being produced in the system under the influence of the fever, or of its effects. (3) To nerve influence.

Feebleness of the heart's action due to either of these conditions may cause the death of the patient directly by asthenia or indirectly by enfeebled *vis a tergo* producing local congestions. Although the two first-named causes of cardiac weakness are the most serious and the least affected by treatment, the third is the most common, and very frequently greatly exaggerates the effects of the other two.

To avert death from failure of heart power, alcohol is the great remedy. Over defective cardiac action, due altogether to changes in the muscular tissue, when once established, or to the circulation of poisoned blood through its vessels, alcohol

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exerts comparatively little influence; but when the weakness and frequency of cardiac action are due to nerve influence in part or altogether, then alcohol exerts a singularly beneficial effect on the rapidity and feebleness of the heart's action.

When the patient is, from natural temperament and the effect of the fever poison, in a state of nervous trepidation, or either directly from the mental state or from some appreciable accidental circumstance giving a colour to his hallucinations or his dreams, in a state of fright; a little abdominal pain or disturbance will cause him to start from sleep or awake in fear. Under these circumstances the temperature rapidly rises—I have known it mount to 106°—the pulse becomes extremely frequent, 150 or more, and feeble or irregular. The effect is so great in the patient's state that death has, I believe from cases I have seen, not unfrequently happened. A free use of stimulants removes all the gravest symptoms, the temperature falls, and the heart's action becomes steady; it falls in frequency and increases in power.

Mental disturbance in typhoid fever varies from trifling wandering—from which the patient is readily recalled by directing his attention to some common object or by requesting him to perform some simple act—to the most violent delirium. Delirium due to fever is never conjoined with headache; headache in typhoid fever may be most intense, delirium most violent, but the headache ceases before the delirium begins. If the delirious patient complains spontaneously of headache, then we should doubt the accuracy of our diagnosis; or if that is beyond question, then we must conclude that there is present that infinitely rare complication of typhoid fever, intracranial inflammation. Delirium is, as a rule, one of the symptoms which are influenced for good by alcohol, but it is one in which the effects of the alcohol should be most closely watched. When alcohol is contra-indicated or proves useless or injurious, the head should be shaved and cold applied either by an ordinary ice-bag or by the cold water tubing cap, or the head may be kept cold while the force of the heart's action is maintained by alcohol.

There is one nerve symptom to which I attach great and grave significance, and which is a guide to treatment—it is tremor.

Tremor is sometimes so great that the patient is unable to protrude his tongue; his jaw trembles, and his voice quivers; and if he attempts to hold any vessel, he spills its contents, not from weakness or drowsiness, but from shaking of the hands. Tremor out of all proportion to other signs of nervous prostration is evidence of *deep* destruction of the intestine. A small *deep* slough will be accompanied by great tremor; a large extent of superficial ulceration may be unattended by symptoms. Now it is deep ulcers following separation of deep sloughs which are especially liable to give rise to severe hemorrhage and perforation. In these cases of tremor alcohol should always be given to increase nerve energy, and so to limit the sloughing and ulceration to what is the direct consequence of the specific process.

I may sum up my experience in regard to the use of alcohol in the treatment of typhoid fever thus. Its influence is exerted primarily on the nervous system, and through it on the several organs and processes; for example, the heart and the general nutritive processes—changes on which the rise and fall of temperature depend. In judiciously selected cases it lowers temperature, increases the force and diminishes the frequency of the heart's beats; it calms and soothes the patient, diminishes the tremor, it quiets delirium, and induces sleep. It should never be given in the early stage of the disease, or with the hope of anticipating and so preventing the occurrence of prostration and debility, but should be prescribed only when the severity of special symptoms, or the general state of prostration, indicates its use. Hence a large number of cases of typhoid fever end

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favourably without alcohol being prescribed from the beginning to the termination. It should not be prescribed when a sudden gush of blood has induced faintness, unless the faintness is so great as to threaten life immediately. Nor should it be given when, after the first few doses, the temperature rises, the heart's action becomes more frequent or more feeble, delirium increases, sleeplessness supervenes, or drowsiness deepens, so as to threaten to pass into coma. When the urine contains a considerable quantity of albumen, alcohol should not be prescribed, unless absolutely necessary for the relief of some symptom immediately threatening life, and then it should be given with the greatest caution, and its effects on temperature, the circulation, and on the urinary and other secretions, both as to quantity and quality, be carefully and frequently noted. The quantity of alcohol prescribed should be as much only as may be necessary to effect the object for which it is prescribed. In the fourth week, to tide the patient over the concluding days of the disease, it may, as a rule, be given more freely than in the second or the beginning of the third week of the disease, but it is in exceptional cases only that more than twelve ounces of brandy in the twenty-four hours can be taken without inducing some of the worst symptoms of prostration. Nearly all the good effects of alcohol, when its use is indicated, are obtained by four, six, or eight ounces of brandy in twenty-four hours. Taken in excess—even when in smaller quantities it would do the patient good—it dries the tongue, muddles the mind, or induces delirium or drowsiness approaching to coma, and diminishes the action of the secreting organs, on the healthy action of which the elimination of the materials destroyed by the action of the fever poison depends. For the last thirty years I have made it the rule of my practice in the treatment of typhoid fever to abstain from giving alcohol if, in the case before me, I *doubted* the wisdom of giving it; when in doubt I do not give alcohol in typhoid fever, and when there is a question in my mind of a larger or smaller dose I, as a rule, prescribe the smaller. The reverse of the rule I laid down for myself in the treatment of typhus fever.

In conclusion I will briefly sum up the chief points that my experience has taught me in regard of the treatment of typhoid fever:—

Typhoid fever cannot be cured; but more lives may be saved by the judicious treatment, and more lives lost by the improper treatment of typhoid fever, than of any other acute disease.

For a very large proportion of cases no other treatment is really required from beginning to end than rest in bed, quietude, fresh air, pure water, and regulated diet, although most cases are benefited by a little wine in the third and fourth weeks. If medicinal, in addition to hygienic, treatment is required, it is because special symptoms by their severity tend directly or indirectly to give an unfavourable course to the disease. At the same time, it must be remembered that the gravity of some symptom is in certain cases due to lesions of structure beyond the possibility of successful treatment—*e. g.*, primary deep sloughs of Peyer's patches; and that other grave symptoms pass away spontaneously, although no special treatment is prescribed for their relief. When drugs *are* required to hold in check a special symptom, their use should be discontinued when the gravity of the symptom for which they are prescribed has subsided.

Temperature so high and continuous as to be a cause of danger, either directly or indirectly by favouring serious degenerative changes of structure, is present in exceptional cases only, and for such cases alone is the direct application of cold to the general surface required.

Alcohol, by the influence it exerts on the nervous system, is of the greatest value in the treatment of typhoid fever, but it should only be given for the purpose of attaining a definite object; its effects should be watched, and the dose so

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regulated as to attain the desired effect from as small a quantity as possible. As the treatment in reference to many symptoms is in the present state of our pathological knowledge tentative, it may have to be varied frequently both as regards continuance and dose of drugs, of stimulants, and of cold. My experience has impressed on me the conviction that that man will be the most successful in treating typhoid fever who watches its progress, not only with the most skilled and intelligent, but also with the most constant care, and gives *unceasing attention to little things*, and who, when prescribing an active remedy, weighs with the greatest accuracy the good intended to be effected against the evil the prescription may inflict, and then, if the possible evil be death, and the probable good short of the saving of life, holds his hands.

While admitting without reserve that heroic measures, fearlessly but judiciously employed, will save life when less potent means are useless, the physician whose experience reaches over many years will, on looking back, discover that year by year he has seen fewer cases requiring heroic remedies, and more cases in which the unaided powers of nature alone suffice for effecting cure; that year by year he has learned to regard with greater diffidence his own powers, and to trust with greater confidence in those of nature.—*Lancet*, Nov. 15, 1879.

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The Significance of Absent Patellar Tendon Reflex.

Dr. C. H. HUGHES, from a clinical inquiry into the significance of absent patellar tendon reflex (*Alienist and Neurologist*, Jan. 1880), concludes that, while absent patellar tendon reflex is often of significance as an associated symptom of present locomotor ataxia, and may even serve, when unassociated, to excite suspicion of its approach, we are not justified in regarding it, when it is the only phenomenon observable, as a certain *sign;* or when it is absent and the other symptoms are present, in excluding a diagnosis of posterior sclerosis. It cannot have the diagnostic significance claimed for it, when it may be observed in indubitably healthy states of the cord, and when the reverse condition of exaggerated excitability may undoubtedly be found in cases of unquestionable posterior spinal sclerosis.

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Chemical Composition of Bones in the Joint-Affections of Locomotor Ataxia.

M. REGNARD has been studying the chemical composition of bones which have undergone those striking changes of degeneration (Académie de Médecine, *Gazette Hebdomadaire*, December 27, 1879) which M. Charcot has pointed out, and of which he has preserved remarkable specimens in his museum at La Salpêtrière. These researches were made on a femoral bone, of which the two extremities were absolutely absorbed and worn away. It was reduced to powder and dried. One hundred grammes of this bone contained of mineral matters, 24.20 grammes; of organic matters, 75.80 grammes; total, 100 grammes. The organic matters were divided thus: fat, 37.70 grammes; osseine, 38.10 grammes; total, 75.80 grammes. The various mineral matters were in the following proportions: phosphate of lime, 10.9 grammes; phosphate of magnesia, 7 decigrammes; carbonate of lime, 11.8 grammes; chlorides, etc., 8 decigrammes; total, 24.20 grammes. The first fact which strikes one is the abundance of fat, 37 per cent., of which the normal bone deprived of its marrow contains very little; then the enormous diminution of phosphate of lime, 11 in place of 48 per cent. The osseine, the carbonates, and the chlorides remain normal. There is, then, more than dry arthritis in the case of these ataxic patients. There exists a real trophic lesion of the bones; a fatty degeneration, with disappearance of the mineral matters. And this confirms the opinion maintained on that point by

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Professor Charcot, to whom is due in the first instance our knowledge of this class of disease.—*London Med. Record*, Jan. 15, 1880.

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Locomotor Ataxy in its Relations with Traumatisms.

M. Landouzy, in a *résumé* of M. PETIT'S paper on this subject in the *Revue Mensuelle de Médecine et de Chirurgie*, Mars, 1879, thus sums up his conclusions (*Revue des Sciences Médicales*, Oct. 1879). Traumatisms having direct or indirect influence on the spine, such as falls on the back, the seat, and the feet, bring on concussions of the medulla, and, consequently, lesions which may become the point of departure of a chronic myelitis, and give rise to symptoms of locomotor ataxy. Up to the present time, it cannot be affirmed that distant wounds possess the same pathogenic influence; but it is probable that, in subjects predisposed to general sclerosis, as arthritic, syphilitic, and alcoholic patients, they may, by over-exciting the medulla, hasten the development of the ataxy. It is certain that distant wounds may revive an apparently cured ataxy, and accelerate the progress of a coexistent ataxy. Various morbid phenomena, the suppression of habitual transpirations, hemorrhoids, menses, cutaneous eruptions, cold, metrorrhagia, pregnancy, intercurrent febrile affections, appear to have a similar action to distant wounds. Ataxic manifestations may localize themselves in regions or organs affected either before or after the appearance of the ataxy. In certain cases, prolonged peripheral irritations have brought on nervous phenomena which have been wrongly designated ataxy by some writers. Appropriate treatment has removed the irritation, and the nervous phenomena have disappeared. As locomotor ataxy is often accompanied by disturbances in the nutrition of certain tissues, it is easy to understand that it may modify the local evolution of wounds. This is to some extent proved by certain cases of contusions of joints, fractures, and wounds of the soft parts.—*London Med. Record*, Jan. 15, 1880.

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On a Peculiar Form of Spinal Disease in Workmen in Zinc Foundries.

The workmen in the zinc foundries of Upper Silesia suffer from obstinate catarrh and irritation of the lung, as well as intestinal canal, and, after a long time, general cachexia, due to the introduction of zinc vapours or zinc oxide into the organs of respiration and digestion. One peculiar series of symptoms, until now undescribed, appears, however, to SCHLOCHOW (*Deutsche Med. Wochenschr.*, 1879, Nos. 17 and 18) especially to deserve attention. These occur in workmen who have been occupied in the foundries from ten to twelve years. At first, complaints are heard of pains in the back, sensitiveness in the soles of the feet, a feeling of burning and creeping in the lower limbs, and gradual not rapid or overwhelming pains occurring in the legs. These patients become deaf and rough-skinned, and complain of cold; the sense of touch and perception of pain disappear in particular parts of the lower half of the body, but in an irregular fashion, so that there is often excessive sensibility in the back of the foot and the shin-bone, whilst the walls of the abdomen and genital parts have lost sensibility. Reflex irritability is diminished in the skin, as well as in the tendons. There are no disorders of the functions of the bladder and rectum. Although at the beginning the muscular power remains, the gait is hasty and irregular. The patients walk with the legs far apart, and tread with the whole sole of the foot. They falter when the eyes are shut, and they go badly in the twilight, so that it is evident that a diminution of the muscular sense occurs. During movement, there occur also often muscular tremors in the muscles of the thigh and of the buttock. There is, however, no atrophy of the muscles, nor any loss of electrical excita-

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bility. It is only in advanced stages that the motor power is diminished in the upper as well as in the lower extremities. Schlochow enters elaborately into the differential diagnosis, and arrives at the conclusion that there is in these affections a focus of chronic inflammation in the spinal cord; and that the symptoms depend upon this, and probably also upon the deposit of zinc in the muscle-substance. Tabes, lead-poisoning, cadmium-poisoning, rheumatic and catarrhal influences, are eliminated from the causation of this disease. There remains, therefore, only as the apparent cause the introduction of zinc into the organism. The prophylactic method is the improvement of the ventilation and means for removing the zinc vapour.—*London Med. Record*, Jan. 15, 1880.

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Hemorrhages in Whooping-Cough.

At a recent meeting of the Paris Académie de Médecine (*La France Médicale*), M. Henri Roger read a paper on this subject. He treated successively of epistaxis which is produced in a direct way by the convulsive efforts of coughing, and only becomes dangerous occasionally by its abundance and repetition when it is connected with blood-poisoning; of subconjunctival and palpebral ecchymoses, equally dependent on the fits of coughing, which are a good indication of pyrexia, and sometimes serve to distinguish the cough of whooping-cough from common bronchitis; of otorrhagia, purpura, and certain visceral hemorrhages. Hæmoptysis as well as hæmatemesis was afterwards studied in detail; and M. Roger demonstrated by numerous cases that these hemorrhages are exceptional in children. In nearly all cases of whooping-cough, there is pseudo-hæmoptysis, the blood being furnished by the nasal fossæ, the pharynx, the mouth and gums, and never by the pulmonary organs. After epistaxis, the most ordinary hemorrhage is that from the mouth at the moment of the fits of coughing. The gums are congested, become fungous, and bleed; the tongue, violently projected during the paroxysms, becomes eroded by the friction of its lower surface against the teeth, frequently producing ulcers of the frænum; sometimes it is even bitten. The lips are dry, and the little invalid often pulls off the epidermis; and every erosion or ulceration, however small, bleeds when the cough comes on. The starting-point of the buccal hemorrhages is sometimes in the gums, and sometimes in a lesion of the mucous membrane or tongue. The blood may also come from the pharynx, and especially from the nasal fossæ; and, in the latter case, the buccal hemorrhage is accompanied and led off by epistaxis. Sometimes the blood ejected from the mouth has a complex origin, and proceeds both from the nasal mucous membrane and from the buccal cavity. It is only at the end of the paroxysm of coughing that the child throws up bloody froth, arising from the intimate mixture of the blood with the bronchial mucous matter broken up and aërated. This expulsion of blood is of very little moment; and yet few symptoms produce greater alarm in the relatives, and even in the medical attendant of the patient, simply because this bloody ptyalism is taken for an hæmoptysis. Children suffering from prolonged attacks of whooping-cough might have been suspected to be affected by tuberculosis. Examination of the mouth, however, would have been sufficient to indicate the source of the blood. M. Roger has shown that it is only after their tenth year that young subjects are liable to spitting of blood; and that this symptom, which nearly always marks the commencement of phthisis in adults, is exceptional. Early childhood, which is ruthlessly ravaged by tuberculosis, may be pronounced exempt from hæmoptysis; pulmonary hemorrhage rarely, if ever, being at that age the initial symptom of phthisis. M. Roger does not hold that true hæmoptysis is impossible; but he affirms that it is rare, and on this point differs from Trousseau, who asserts

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it to be rather general. In the same way as there is pseudo-hæmoptysis in whooping-cough, there is also pseudo-hæmatemesis. When a child suffering with whooping-cough seems to vomit blood, the nasal fossæ should be carefully examined; and it is soon seen that the blood has flowed by the posterior nares, and often insensibly into the stomach, where it may accumulate in considerable quantity. If it be expelled almost immediately, the flux by the nostrils is still visible; if it be tardily evacuated, when the epistaxis has ceased, some drops or clots on the nose may point out whence it comes. Hæmatemesis is, like hæmoptysis, quite exceptional in extreme youth, and only very rarely met with in sparse cases of purpura hemorrhagica. To resume: there are two kinds of hemorrhages—hæmatemesis and hæmoptysis—which the physician should erase from the list of the complications of whooping-cough.—*British Med. Journal*, January 3, 1880.

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The Terminations of Pneumonia.

Few observations or theories in medicine which have once been regarded as unassailable, escape question in succeeding generations. Many of them also undergo a period of denial and sometimes of re-establishment. Further investigation demonstrates that the observations, if not the theories, of older workers deserved more regard than had always been accorded to them. The question of the terminations of pneumonia furnishes an illustration of this, as Professor LEYDEN has shown in an excellent lecture delivered to the Charité Medical Society, and published in the *Berlin Klin. Wochenschrift*. The old pathologists taught that pneumonia which did not resolve might end in suppuration, in gangrene, or in chronic inflammation and induration; and although in this country these methods of ending, as occasional rare events, have perhaps never been doubted, they have not escaped question at the hands of German pathologists, more than one of whom has doubted whether these terminations of acute fibrinous pneumonia ever actually occurs. The occurrence of these events is in itself extremely difficult of proof, the ground for doubt being the question whether the pneumonia thus ending was really of the acute fibrinous variety in a previously healthy lung, a point naturally not easy of demonstration.

The termination of acute pneumonia in suppuration, in abscess of the lung, was first doubted by Laennec, and it is certain that such ending is far less common than was at one time assumed; but it must, in Leyden's opinion, be regarded as unquestionable, and he cites a well-marked instance which has been recorded in the last volume of the "Charité Annalen." A similar doubt has been expressed regarding the termination in gangrene. It is certain that a large number of the cases of inflammation of the lung which terminate in gangrene have a special type, which suggests that they differ essentially from cases of primary fibrinous pneumonia. Crucial cases are difficult to find, but Leyden in this paper adds another to a series previously published—a case in which the patient came under observation on the fifth day of illness and died on the twenty-third, and hepatization in the lower lobe coexisted with diffuse gangrene in the upper. There was no trace of circumscribed or embolic process. The patient was extremely prostrated by the pneumonia, and with the diminution of the fever the heart's weakness increased still more, and it is assumed that the compression of the vessels by the exudation was greater than the feeble heart could overcome.

The question of the termination of pneumonia in chronic inflammation of the lung is of the greatest practical importance and of the greatest difficulty. We must consider, not merely its termination in induration, but in all those chronic processes which may lead to phthisis—as caseous pneumonia and desquamative

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pneumonia. Can phthisis result from acute pneumonia in a previously healthy lung? At first sight the answer appears simple. Many cases of phthisis appear from their history unquestionably to have commenced with acute pneumonia. But more careful examination into the history of such cases demonstrates that in the majority, the pneumonia was not of regular course, but was evidently subacute or chronic. Cases in which the pneumonia was really acute are very rare, and even here we are in doubt as to whether the lung was not previously the seat of phthisical changes. The difficulty of the proof is very great in the case of hospital patients, who come under treatment only when the disease is developed or advanced, and Leyden believes that the process has not yet been demonstrably proved, while one of the first authorities in Germany, Buhl, denies that it occurs.

If we consider the anatomical processes, fibrinous pneumonia appears at first far enough removed from the changes in phthisis, but in the stage of resolution the difference between the two processes is smaller, and is diminished still further if we deny that the phthisical process has any specific characters. Thus the possibility of the result must, on anatomical grounds, be conceded, and its clinical probability, as we have seen, is great, but the actual proof has not yet been given, and is not quite furnished even by a case which Leyden adduces as affording almost a proof. The pneumonia came on in a man twenty-two years of age, after exposure to cold, but at an interval of fourteen days, which constitutes a weak point in the case. The inflammation ran a normal course, except for the incompleteness of resolution. The temperature became natural, but shortly afterwards the investigation of the sputum showed the existence of commencing phthisis, which the physical signs soon confirmed.

Simple retarded resolution in pneumonia is a condition of much practical importance. In some cases the physical signs remain for weeks, and even months, and then slowly disappear. Leyden states correctly that many such cases, coming under treatment at a later stage, are regarded as cases of phthisis, and help to swell the numbers of cases of consumption. Their distinction may be, as Walshe long ago insisted, most difficult. Leyden points out as the differential signs the persistence of the crepitant râle at the end of inspiration (by no means, however, we think, always to be heard), the absence of large mucous râles, the slight degree or absence of retraction, and especially the examination of the sputum. This is scanty, greenish-yellow, and consists of fine threads and small globes, which are composed of pus-corpuscles and degenerated epithelium of the air-cells. He insists strongly on the importance of the microscopical examination of the expectoration in all such cases, and adds a series of illustrative cases, one of which is particularly instructive, since the pneumonia came on under observation, the patient being in hospital on account of enlargement of the liver, and ultimately dying of ulcerative endocarditis.

With regard to the causes of retarded resolution, Leyden points out that the process is influenced by age, occurring less readily in the old, but that this rule is of very limited application, since most of the cases he has recorded occurred in youthful persons. Physicians who see much of the diseases of children will probably agree with us, moreover, that the process is seen now and then in striking form quite early in life. We call to mind a case in which an acute basic pneumonia, of typical course, in a boy of five years, remained unresolved for three months, and then only cleared on removal to a higher altitude. Leyden insists also, with justice, on the influence of weakening of the circulation by the pyrexia, or by the other causes, and instances the tardy resorption of inflammatory exudation generally, in the pleura, pericardium, or peritoneum in those whose strength is low. A second, also important, element he believes to be an

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unusual density of the infiltration. Most of his cases suggested such a condition in an intense degree of dulness and slightness of râle. Similar dense infiltration is sometimes found in the young, so as to quench every sound at the height of the pneumonia. In the case which was investigated after death the view was confirmed in so far that, in many alveoli, there were very dense and firm plugs of fibrin, and it is readily conceivable that such plugs may resist disintegration much longer than those which commonly occur. An important aspect of the question is as to the anatomical changes which take place in the lungs in these cases, and which do not pass away when the retarded resolution takes place. Do such lungs recover perfectly, or are there not always changes in varying degree similar to those the origin of which has been admirably traced by Dr. Wilson Fox in his article on Chronic Pneumonia in Reynolds's "System of Medicine." It is hardly conceivable that a lung can remain functionless for months, with solid instead of air within the air-cells, with the circulation persisting so as to nourish the walls of the air-cells, without these undergoing perversion of nutrition such as to prevent them recovering a normal state, even though the exudation within them is cleared completely. The point must await future investigation for its settlement.—*Lancet*, Jan. 3, 1880.

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Iodide of Potassium and Iodide of Iron in Tuberculosis.

M. LEBERT, in his newly published work on Pulmonary Phthisis, devotes a chapter to the treatment of this disease. His practice in this respect differs notably from that usually adopted. Convinced of the inflammatory nature of tuberculosis, M. Lebert makes frequent use of iodide of potassium, which he has never found injurious, but, on the contrary, very advantageous in slightly developed tuberculosis. It must not be prescribed when hectic fever, caverns, and consumption supervene; not that it is injurious, but simply ineffective. In the first phases of tubercular evolution, even after a certain number of foci have formed, it may do good service, but it must be given persistently and in doses from thirty centigrammes (4½ grains) to one or two grammes (15 or 30 grains) daily. It is the same with iron, and the iodide of iron, which, notwithstanding the fear in which it is held by many physicians, is useful as soon as weakness and anæmia progress. According to M. Lebert, the best preparation is Blanchard's pills, of which he gives two at first, going on to six or more in the four and twenty hours. Syrup of iodide of iron made according to the following formula is also a favourite medicine with M. Lebert: Iodide of potassium, 4 grammes; sulphate of iron, 2 to 3 grammes; cinnamon water, 30 grammes; syrup of orange flower water, or syrup of orange peel, 150 grammes. A dessertspoonful is to be taken twice a day at first, and increased gradually to two or three tablespoonfuls in twenty-four hours. M. Lebert also recommends benzoate of iron and cod-liver oil combined, with iodide of iron in somewhat complex preparations. He often also prescribes iron when not in combination with iodine. He readily prescribes from twenty to thirty centigrammes of lactate of iron per diem, or in dyspeptic conditions he administers an effervescing powder composed as follows: Lactate of iron, 4 grammes; bicarbonate of soda, 12 grammes; tartaric acid, 9 grammes; sugar, 4 grammes. This should be compounded and put into a wide-mouthed bottle. The patient takes it twice a day in doses of half a teaspoonful or a teaspoonful in a quarter of a glass of sugar-water at the moment of effervescence. Iron does not act in tuberculous maladies directly on the foci of the disease, but specially on digestion and nutrition, and helps to restore the strength. It is generally useful in tuberculosis, whether more or less advanced. It is still the best remedy in those chloro-anæmic conditions which without actually belong-

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ing to phthisis yet predispose powerfully to it.—*London Med. Record*, Jan. 15, 1880.

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On Patency of the Interventricular Septum.

M. ROGER'S conclusions (*La France Médicale*, No. 86, 1879) on this subject are as follows. There is a malformation of the heart, in which there is no cyanosis, though a free mixture of the venous and arterial blood takes place. This malformation, which is compatible with life and even with a prolonged existence, when it is simple and without the co-existence of a stenosis, also congenital, of the pulmonary artery, is patency of the ventricular septum. It is revealed only by auscultation; it is indicated by a physical sign, of which the characters are quite special. There is a murmur very prolonged and unique, which commences at the systole, and is prolonged in such a way as to entirely cover the natural tic-tac; it has its maximum, not at the apex, as in alterations of the auriculo-ventricular orifices, nor at the right base, as in contraction of the aorta, nor at the left, as in pulmonary stenosis, but at the superior third of the præcordial region; it is median, as is the septum, and from this central point it diminishes in intensity regularly and in proportion as it extends; it is fixed, and not propagated into the vessels; it is associated with no other sign of organic affection except purring tremor. An anomalous *bruit*, possessing this group of characters, is the pathognomonic sign of patency of the interventricular septum. The age of the patient is an important element in the diagnosis; a murmur in an infant at the breast being almost certainly an indication of some anomaly of the central circulation. The prognosis is far less grave than in cardiac disease, as life may be prolonged to beyond middle age. As regards treatment, the diagnosis is important; for, while active treatment is necessary in cardiac disease, it is useless, and even harmful, in cases of malformation.—*Lond. Med. Record*, Jan. 15, 1880.

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Employment of Pilocarpine in Uræmia.

We give a summary (*Deutsch Med. Wochen.*, No. 26, 1879) of four observations by M. BÆGCHOLD, of cases marked uræmia, in which pilocarpine was employed in the form of subcutaneous injections.

CASE 1.—Child, aged five years. Grave uræmia during convalescence from scarlatina. An injection was made of eight milligrammes of pilocarpine; convulsions ceased at the end of an hour, and she recovered consciousness. After some days a fresh attack was cured in the same way by two similar injections. The injections were made regularly during twenty days, and the attacks were not renewed. Ten days later the albumen had disappeared, and the cure was complete.

CASE 2.—Boy of twelve years, seized with uræmic convulsions during convalescence from scarlatina. Injections of one centigramme of pilocarpine stopped the convulsions at the end of six minutes on two different relapses. Cured.

CASE 3.—The injections stopped the convulsions, but the patient was comatose, and death ensued.

CASE 4.—Aged seven years; chronic nephritis. Convulsions ceased under the influence of pilocarpine injections, but the child succumbed to the progress of the disease.

The results obtained by Bægchold appear to show that pilocarpine may be a useful agent to combat one of the most alarming and most dangerous symptoms, but its utility against the disease itself seems to us doubtful. However, as it stops the convulsions, it might be, perhaps, favourably employed in puerperal

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eclampsia; and this is a point which deserves consideration.—*Gazette Hebdomadaire*, Jan. 30, 1880.

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Pyonephrosis, and Excretion of Liquid Fat and Hæmatoidin Crystals through the Urine.

Professor EBSTEIN publishes in the *Deutsches Arch. für Klin. Med.*, Band xxiii, the following case, which had come under his notice. A woman aged 34 had been suddenly taken ill with high fever and gastric disturbance. When received into the hospital seven days later, the temperature had become normal; but on the left side of the abdomen was a swelling of the size of a child's head, which evidently belonged to the left kidney. The secretion of urine was scanty, though normal. Twelve days after she entered the hospital, she began to complain of pain resembling a sharp attack of colic, in the region of the bladder and the left ureter. The urine which was passed at that time was strongly tinged with blood, and contained a great quantity of clots of blood, but no casts. During the following days, the renal tumour decreased in size; but the urine continued to be bloody for the next eight days. The quantity of urine excreted had considerably increased. Six days after hæmaturia had first been observed, it was noticed that the urine, after standing, became covered with a layer of numerous drops of fat, giving it the appearance of very rich *bouillon*. This secretion of fat through the urine continued for the next four weeks, when the patient left the hospital. If examined immediately after the urine had been passed, the drops of fat were of a fine yellow colour, clear and transparent; but, on having been allowed to stand, they presented a grayish colouring, and coagulated into whitish scaly masses. When examined under the microscope, the latter were seen to consist of bundles of fine and slightly curved acicular crystals and hæmatoidin crystals, and of amorphous pigment. The sediment of the urine contained red blood-corpuscles, pus-cells, pavement-epithelium, occasional fat drops which contained needle-shaped crystalline bodies, and yellowish shreds and patches resembling blood clots in a state of degeneration, and containing large numbers of the fat drops described above. Renal epithelium or casts were never observed. Ebstein supposes that the case was one of pyonephrosis of the left kidney, or rather a case of "pyo-hæmatoliponephrosis;" and that the excretion of fat and hæmatoidin was caused by the degeneration of the blood-clots.—*British Med. Journal*, January 3, 1880.

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The Relationship of Bright's Disease to other Diseases. The Secondary Forms of Nephritis.

The subject of Bright's disease is one which is far from being exhausted as yet, and many points in its history still require elucidation. Professor BAMBERGER, of Vienna, has therefore done good service[1] in utilizing the vast resources of the Allgemines Krankenhaus to try and clear up difficulties and open up new paths of investigation into the pathology of this disease. His essay is founded on his own long clinical experience, and also on 2430 post-mortem examinations in which the anatomical diagnosis of Bright's disease has been made in the Pathological Institute at Vienna during the last twelve years. The total number of patients of all kinds, excluding children, during this period was about 250,000, the total number of necropsies 19,000. The cases diagnosed as Bright's disease do not include amyloid disease, or nephritis due to circulatory obstruction (*Stau-*

[1] "Ueber Morbus Brightii und seine Beziehungen zu anderer Krankheiten." (Volkmann's Sammlung Klinischer Vorträge, No. 178.)

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ungs-Hyperämie) or to embolism or pyæmia, unless accompanied with true parenchymatous or interstitial nephritis. On the other hand, they include the nephritis which occurs in acute infectious diseases, and especially in typhoid and puerperal fevers, this form being classed under the head of acute Bright's disease. The Vienna pathological classification arranges cases of Bright's disease under three heads, the acute, the chronic, and the atrophic. Those cases in which the kidneys exhibit the anatomical appearances of inflammatory swelling are under this system reckoned as "acute," though clinically they may be chronic cases with acute exacerbation. By "chronic" is meant that form of nephritis in which the epithelial element is chiefly involved (parenchymatous, or tubal nephritis); by "atrophic," that which is known in England as interstitial nephritis, where the bulk of the organ becomes gradually reduced by connective tissue proliferation and contraction.

With regard to this classification, we should say that Professor Bamberger recognizes no abrupt line of demarcation between the parenchymatous or tubular, and the interstitial or granular contracted forms of chronic nephritis. They shade insensibly into one another when a large number of cases of Bright's disease are examined post-mortem. There are marked examples of both forms, and endless intermediate forms between the two extremes. The same is true of the *clinical* history when a sufficient number of cases are observed. We get typical examples of chronic Bright's disease where the symptoms of the classical descriptions of tubular and interstitial nephritis are found associated, each with their proper morbid appearances. On the other hand, as Bamberger points out, there are three other contingencies. In the first place, cases diagnosed as interstitial nephritis during life turn out at the necropsy to be either cases of tubular (parenchymatous) nephritis, or combinations of the latter with interstitial changes or even with amyloid degeneration; or, secondly, the symptoms may be very nearly those of tubular nephritis and the kidneys be in a highly contracted state; or, thirdly, the symptoms may correspond partly (especially in the earlier stages) to those tubular and partly (especially in the latter stages) to those of interstitial nephritis. Hence Bamberger's experience leads him to the belief "that the clinical aspect of Bright's disease depends less on the anatomical form of the kidney-mischief than on the acute or chronic character of the illness, and on the conditions which accompany and follow it—*e. g.*, renal hyperæmia and hemorrhage and cardiac hypertrophy." We should remark, in passing, that among German pathologists the tendency appears to be less to discriminate a number of characteristic forms of Bright's kidney than to show how interstitial, tubular, and even amyloid changes may occur in varying proportions in all possible combinations with one another. Our space will not permit us here to do more than refer in proof of this statement to the recent admirable essay of Dr. Carl Weigert, of Leipsic,[1] which sums up the results of several years exclusive work at the pathology of Bright's disease. Weigert comes to the conclusion that interstitial and tubular changes are inseparable in the same kidney, that degeneration of renal epithelium is a prime factor in the production of interstitial connective tissue proliferation, and that our classification of the forms of Bright's disease must mainly be based on their *chronicity*. Hence his provisional arrangement of them is into four groups—acute, subchronic, chronic, and very chronic nephritis; the symptoms corresponding to each form depending on the predominance of tubular disease in the acute and subchronic forms, and on the gradual coming to the form of interstitial changes and granular contraction in the chronic and very chronic forms. We shall hope to speak more in detail of Dr. Weigert's essay at some other time.

[1] "Die Bright'sche Nierenerkrankung vom pathologisch-anatomischen Standpunkte." (Volkmann's Sammlung Klinischer Vorträge, Nos. 165, 163.)

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To return to Professor Bamberger: he has utilized the material at his disposal for two main purposes—first, to study the relations of Bright's disease to other antecedent diseases; and secondly, to clear up the natural history of this affection when occurring as a primary disease in a previously healthy person, especially with reference to its complications and sequelæ. In this part of the subject he enters at considerable length into the discussion of the mode of origin of cardiac hypertrophy in chronic Bright's disease. It will be best to follow Professor Bamberger's plan, and treat first of the secondary forms of nephritis. Of these, 1623, or 67 per cent. were represented in his 2430 cases. Anatomically, the secondary and primary forms differ but slightly. Amyloid disease of the renal arterioles is, however, much more common in the former, while the alterations in the kidney generally are also usually less advanced in it than in the primary forms, because the latter are seldom fatal in the acute stage, and generally have undergone considerable development before they are met with on the post-mortem table. Clinically, the secondary forms of Bright's disease are characterized by the frequency with which the renal symptoms are overshadowed and obscured by those of the original disease, and by the rarity of cardiac hypertrophy (3.3 per cent. in the secondary, against 42.6 per cent. in the primary form), except in cases with concomitant valvular disease, endarteritis, aneurism, or emphysema. The following table represents numerically the etiological relationship of secondary Bright's disease to other diseases, and the proportion of acute, chronic, and atrophic (granular contracted) cases associated with each. The percentages refer to the total number of the cases investigated, both primary and secondary, viz., 2430:—

Primary disease.	Bright's disease. Acute form.	Chronic form.	Atrophic form.	Total.	Per-centages.
Tuberculosis, phthisis, scrofula	47	257	76	380	15.7
Valvular disease of heart	19	117	86	222	9.1
Pregnancy and puerperal affections	80	56	16	152	6.3
Diseases of urinary organs	11	72	51	134	5.5
Suppurative process	42	77	10	129	5.2
Alcoholism, cirrhosis of liver	16	68	33	117	4.8
Cancer	13	55	35	103	4.2
Emphysema of lungs	6	51	28	85	3.5
Typhoid fever	42	14	2	58	2.4
Syphilis	4	29	16	49	2.0
Scarlet fever	18	0	0	18	0.7
Intermittent fever	1	9	3	13	0.5

A few cases not included in this table were the results of cholera, pneumonia, diphtheria, smallpox, scurvy, dysentery, etc.

What strikes us most in this table is the remarkable frequency with which Bright's disease and phthisical and scrofulous processes are associated. Bamberger believes that this point has never before been brought out with sufficient clearness by other observers. As far as English writers on phthisis are concerned, we have long been surprised at the way in which the subject of the connection between phthisis and albuminuria has been passed over by them. We should probably be within the mark if we said that our authorities on renal disease, with one or two exceptions, have also been contented to consider amyloid degeneration as the only common form of renal disease which complicates phthisis. As a fact, Bamberger finds that while amyloid disease in the kidneys and in other organs is a tolerably frequent attendant on chronic phthisis, the parenchymatous or tubular form of nephritis is far the most common condition. True tuberculosis of the

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kidneys, and caseous inflammation of the mucous membrane of their pelves are, on the whole, very seldom met with. Professor Bamberger considers that clinical experience can leave scarcely a doubt that the phthisis is really the antecedent of the nephritis, and not *vice versa;* and he points out how rarely phthisis actually occurs in persons who are already the subjects of Bright's disease. Valvular diseases of the heart, which come next in the list, include all forms of these affections, one of the commonest in association with renal disease being simultaneous disease of the mitral and aortic valves. Bamberger regards venous stasis as at least one factor in the production of tubular and interstitial changes. The number of cases of chronic and atrophic Bright's disease, especially the latter, associated with the pregnant and puerperal state is interesting; and Bamberger is of opinion that in some of them the nephritis must have existed before pregnancy, for else the time would have been too short for the process to have reached the atrophic stage. We shall see in another article that *primary* Bright's disease is more common in women than is generally supposed; but we should also remember how rapidly interstitial alterations may follow tubular nephritis, as Aufrecht found in rabbits in which the ureter of one side was tied.[1] We need scarcely discuss here the relationship of Bright's disease to diseases of the pelvis of the kidneys, of the ureters, and of the bladder, for it has long attracted the attention of surgeons. Bamberger specially notices hydronephrosis and pyelitis and purulent nephritis as frequent complications in this section. The frequency of amyloid disease in connection with chronic suppuration is also well known. The effect of chronic alcoholism in inducing Bright's disease seems clear from Bamberger's table, though some authorities have tried to deny it. It is chiefly the ulcerative and multiple forms of cancer which are associated with renal diseases. With regard to emphysema, Bamberger thinks that it is sometimes not the cause, but the result, of the Bright's disease, and arises in consequence of capillary bronchitis secondary to the latter. Sometimes the two affections may be merely collateral, and both dependent on the patient's age. The condition of the heart he considers the best guide to the determination of their causal relationship to each other. "If the emphysema is the primary disease, the right side of the heart is hypertrophied, the left normal. If the left side is also hypertrophied, the emphysema cannot be the primary disease, but either a sequela or a chance complication of the nephritis, and the nephritis is probably primary, seeing that secondary Bright's disease very rarely leads to cardiac hypertrophy." The other sections of the table need not detain us; we need only observe that Bright's disease as a sequela of scarlet fever is so sparingly represented in it because at Vienna, as a rule, children under twelve years—who, of course, are its chief victims—enter the St. Anne's Children's Hospital, instead of the General Hospital.

Turning now to the common factors which must exist in all the diseases that are found to give rise to Bright's disease, Professor Bamberger points out that they can be arranged in three groups, each of which is based on a distinct pathological element. In the first group, which is also the most important of the three, this element is of a poisonous nature. The kidneys are damaged by some chemical substance which passes through them as the great excretory organs of waste products, and which may either be introduced into the system from without, or be manufactured in the system itself. Of the former class alcohol is the chief representative; other bodies which irritate the kidneys, such as cantharides and squills, are known, but their effects are temporary, and it is uncertain whether their prolonged use in small doses would excite actual nephritis. Bamberger is skeptical as to the toxic action of lead, whereas it is admitted by Weigert in his

[1] Centralblatt Med. Wiss., Nos. 19, 35, 1878.

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essay. Would Bamberger deny that there is some causal relationship between lead-poisoning, gout, and granular contracted kidney? The poisons manufactured in the system itself are probably more important factors in the production of chronic Bright's disease than those external to it. They are the products "of self-infection, caused by the absorption of organic material destroyed by suppuration or gangrene, and of the lowly organized, rapidly proliferating bodies which cling closely to it." In this category we have scrofula, tuberculosis, and phthisis, caries and necrosis of the bones, suppurative inflammation of the joints, skin, and subcutaneous connective tissue, ulcerating cancer, typhoid ulcers of the bowel, etc. "More than a third of all the secondary forms of Bright's disease," says Bamberger, "may probably be referred to it."

The element in the second group is venous congestion due to heart or lung disease. It needs no detailed discussion. In the third, and the numerically smallest group, the exciting cause of nephritis is retention of secretion owing to mechanical obstruction, such as urethral stricture, pressure on the ureters, and the like. It is difficult to decide whether the stagnating secretion exerts a chemical as well as a mechanical action on the kidney. Bamberger inclines to the belief that it does both; and he also considers that in some cases of chronic Bright's disease a combination of two, or even of all three of the groups, may have been at work. Thus, in pregnancy, venous stasis and pressure on the ureters may both co-operate, and in puerperal inflammations the toxic element of the first group may be superadded.

In another article we shall offer our readers the results of Bamberger's investigation of the primary form of Bright's disease, which are no less instructive than those we have just been discussing.—*Med. Times and Gazette*, Jan. 3, 1880.

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On the Combination of Lupus and Carcinoma.

KAPOSI (*Viertelj. f. Dermat.*) has thrice remarked the combination of lupus and cancer. Two of these have been already described. The third affected a day labourer, forty-three years of age, who had suffered from lupus on various parts of the body for thirty years. In the centre of a large patch of lupus on the upper arm there was a prominent tumour, warty in character, of the size of the fist, which secreted a rank-smelling discharge and was gangrenous in parts. This was separated by a furrow 4 mm. broad from the surrounding lupus surface, and had developed in the course of a few months. The tumour was an epithelial cancer, whose cancer elements pushed their way between the lupus nests. Kaposi insists that a structural transformation between lupus and cancer in ordinary cases of lupus can scarcely be accepted in endeavouring to find some histogenetic reason for the development of cancer out of lupus. But in lupus epithelial hyperplasia occurs in an abnormal form, in which the rete pushes down long projections into the inflamed and lupus-infiltrated corium. These form a mesh-work of epithelial cells in the latter, and convey the impression of an epithelioma. Kaposi sees in such a non-typical cell growth, when associated with lupus, the basis and opportunity for the development of cancer, the further rapid progress of which in the lupus areas is easily explained by its pathological nature. The operative removal in this case was conducted by means of an elastic ligature, by the galvanic cautery, and later on by destruction by caustic potash. The result was favourable. Kaposi suggests, as useful in such cases, the painless cauterization by an ointment of pyrogallic acid, which he has recently had under trial.—*Edinburgh Med. Journal*, Dec. 1879.

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Surgery.

Treatment of an Erectile Tumour by the Injection of Chloral.

In a case of rapidly extending erectile tumour, situated in the naso-palpebral region, Dr. ANTONIO PUPI (*La France Médicale*, No. 83), after failing to arrest the disease by other methods, succeeded in curing it by injecting chloral into the base of the tumour. He was led to try this method from the fact that chloral is not only a hæmostatic and cicatrisant, but that it also has the power of coagulating recently drawn blood, the coagulum so formed being insoluble. Three injections were made, at intervals of fifteen days, the strength of the solution being 1 to 10 of distilled water. Each injection was followed by tumefaction, which, however, was painless, and lasted only four or five days. The cure was so complete, that the traces of the tumour could be detected only by one who was acquainted with the case.—*Lond. Med. Record*, Jan. 15, 1880.

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Treatment of Dacryocystitis and Lachrymal Fistula.

Every surgeon knows how tedious and unsatisfactory the treatment of such cases often is, and how much patience and perseverance is necessary to obtain even a very small modicum of success. Dr. FONSECA (*Correio de Medico de Lisboa*, No. 22, November 15) proposes to remove this reproach from surgery, and has published a series of cases in which he has successfully treated epiphora dacryocystitis, and lachrymal fistulæ, by means of very small probe-pointed sounds, uniform in size. These are passed into the sac, either through the upper or the lower punctum, without previous incision. This treatment can often be advantageously supplemented by injections of cold water. The same sized probe should always be used, and that at intervals of three or four days. The author is opposed to the use of a series of probes of increasing size, and considers Bowman's treatment unnecessarily severe. One case of epiphora, complicated with dacryocystitis and fistula of five years' standing, was cured completely in sixteen days. The author concedes that the method may not be applicable to all cases; but where it is applicable, it will give better results, with more rapidity and with less risk of danger to the mechanism of the parts, than any he is acquainted with. [The above treatment has already been extensively practised by Becker of Heidelberg, and Dr. de Wecker of Paris. The author is, no doubt, right in his views regarding the value of injections, and the unnecessarily large probes that are often passed. In most cases, however, a partial slitting up of the canaliculus will be found necessary. Injections can only be of use in cases where, along with an unhealthy condition of the mucous membrane of the sac, the puncta are not displaced or the canaliculi or ducts organically altered.]—*Lond. Med. Record*, Jan. 15, 1880.

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Atrophy of the Optic Nerve in Erysipelas of the Face.

PARINAUD (*Centralb. für d. Med. Wiss.* 1879, p. 614; from *Archives Gén.*) says that only six cases of this nature can be found in literature. He describes two additional instances. The first is that of a woman, aged 26, who ad suffered from erysipelas running its usual course, and in whom a sudden increase of temperature took place, with severe headache on the left side. During the next few days, the patient observed a marked diminution in the sight of the left eye, while the right became almost totally blind. Ophthalmoscopic examination showed neuritis anterior. At the end of a month, distinctness of vision had

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somewhat improved, but it never entirely returned. The second case, in a person aged 59, was very similar, both eyes, however, being affected to about the same degree. In five of the cases referred to, one eye only was affected. In the sixth case, as in Parinaud's, both were diseased. Parinaud thinks that the unilateral eye-trouble depends upon an affection of the optic nerve alone, which does not extend to the chiasma. In the double cases, the origin of the trouble is to be sought for in the central organ.—*Lond. Med. Record*, Jan. 15, 1880.

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Apparatus for Washing Out the Middle Ear.

In the *Deutsche Med. Wochenschrift* of November 1, Dr. A. HARTMANN of Berlin describes an instrument which he has devised for washing out the cavity of the tympanum. This consists of a straight silver tube two millimetres thick and eight centimetres long, the middle portion of which is perfectly straight, the end for insertion into the tympanic cavity being bent at nearly a right angle; this bent part measures only about one millimetre. The opposite end of the tube is curved at an open angle, and swells out so as to afford attachment to an India-rubber tube connected with a syringe. The tubing should be as thin and light as possible. The instrument is generally introduced into the tympanum through the speculum, and with the light reflected from the usual mirror. In using the apparatus, only a very gentle stream should at first be injected, and if this be well borne, it can be gradually rendered stronger. The conditions in which washing out the cavity of the tympanum is indicated are, in the author's opinion, the following. (1) In all cases of chronic purulent inflammation of the middle ear, in which it is suspected that, besides the secretions removed by the usual injection, there remain others accumulated in crevices in the tympanum or in the mastoid cells. (2) In patients suffering, or who have recently suffered, from inflammation of the middle ear, if symptoms of inflammatory irritation, or indications of pressure, stupor, headache, or giddiness arise, which suggest the presence of accumulated secretions in the tympanum or its communicating cavities. (3) In caries of the external auditory canal. The author has used his apparatus in such cases, introducing the point of the tube into the fistulous opening, and cleansing the part with a stream of water.—*Lond. Med. Record*, Jan. 15, 1880.

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On the Operative Surgery of the Digestive Tract.

One of the cases related by KRONLEIN (*Berlin. Klin. Wochenschrift*, 1879, No. 34–35), is a successful case of gastrostomy. The stricture was due to annular cancer at about the middle of the œsophagus, in a labourer, aged 71. It was impassable even to fluid food. The incision was made parallel to the arches of the left ribs. The wound in the stomach was attached to the abdominal wound under antiseptic precautions, and the stomach was opened five days afterwards. From that time forward, nutrition was entirely carried on by the wound. The result was favourable, except that the patient suffered from very severe thirst which, however, could be fully satisfied by continuous chewing of tobacco. Two months later, the patient died from his cancer. The second case is a very interesting one. A child, six days old, had had no evacuation of the bowels since its birth. The anus was extremely narrow and terminated in a *cul-de-sac* at 2·5 centimetres high. After division of this in the antero-posterior median line, Kronlein endeavoured to reach the upper *cul-de-sac*. He only succeeded in opening the cavity of the abdomen, from which peritoneal exudation was freely evacuated. The upper *cul-de-sac*, however, was not reached. Laparotomy was then performed in the left groin, and a coil of the small intestine was drawn into the abdominal wound, fixed there, and opened. Contrary to expectation, the

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child lived and thrived under regular nourishment. Further search and attempts to sound the intestine below from the artificial anus failed. When, however, the child had grown to be seven months old, the upper end of the intestine ending in the *cul-de-sac* could be felt. The previous operation was again undertaken, and the upper *cul-de-sac* successfully united with the lower. At the close of the report a stricture existed at the place of union, but the larger part of the contents of the bowel were already evacuated by the natural anus.—*London Med. Record*, Jan. 15, 1880.

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Gastrostomy for Strictures of the Œsophagus.

SKLEFFASSOWSKI (*Medizinski Westnik*, 1879, Nos. 21 and 24) relates in detail the case of a man, aged 38, who was suffering from complete cancerous obstruction of the œsophagus, and had for fifteen days been nourished by enemata, as at last not even water could pass the stricture. The operation was very successfully performed according to the accepted method, with strict antiseptic precautions, and the stomach opened by an incision passing from the ziphoid process, opposite the border of the eighth rib, to the left outwards for 2·4 inches. The opening in the stomach was stitched to the wounds in the walls of the abdomen by catgut ligatures: for a time the patient showed signs of favourable reaction. He was nourished by a little milk and sherry every three hours. But he fell off again in twenty hours, and died with symptoms of pneumonia. The left lung showed universal adhesions to the pleura, and bronchiectatic caverns. The aperture in the stomach was an inch below the cardiac entrance, and was adherent to the abdominal wall.—*London Med. Record*, Jan. 15, 1880.

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Use of Cold Baths in Strangulated Hernia.

The use of cold in the treatment of strangulated hernia (*Wiener Medizinische Wochenschrift*, No. 26–27) has been often and much recommended for a long series of years, sometimes in the form of bladders of ice, sometimes in the form of cold compresses. These methods have, however, the disadvantage that they must be employed for a long time before any result follows; and if none follow, the favourable moment for operation may have been wasted in the unsuccessful attempt. Dr. HEIN observes that in four cases he had perseveringly employed cold applications to the tumour, without bringing about its reduction. On the other hand, he had in two cases favourable results with cold baths, by which he obtained an effect of cold upon the whole intestinal tract. In the first case the patient has had a warm bath ineffectually, and he then put him, sitting up, in a cold bath. The tumour returned of itself while the preparations were being made for the administration of chloroform. In the second case, one of scrotal hernia of the left side, eight hours incarcerated, he gave a bath for fifteen minutes at a temperature of 15 deg. Cent. (59 deg. Fahr.); the reparation was easily effected. Half an hour after the bath, the temperature was 36.4 deg. Cent. (97.5 deg. Fahr.) in the axilla. By this method a lowering of the whole temperature of the body is caused, and thereby contraction of the intestine in its whole length.—*London Med. Record*, Jan. 15, 1880.

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Hydrocele with Cholesterin.

Prof. GOSSELIN reports (*Gaz. des Hôp.*, Jan. 22) the case of a man, aged forty-five years, the subject of a hydrocele, which had become painful in consequence of a slight injury received a few days ago. At first he was inclined to believe it a hæmatocele, owing to the difficulty he had in observing its transpa-

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rency. This was at last accomplished by causing the patient to stand in front of a window through which the sun was shining. This difficulty might be due in part to a thickening of the coverings which was present, and to some swelling of the testis—a condition which Prof. Gosselin has found, without knowing why, to prevent seeing the transparency of effusion contained in the tunica vaginalis. About one hundred grammes of liquid were drawn off, and an injection of tincture of iodine (which Prof. Gosselin always dilutes with equal parts of water in subjects of forty or fifty years of age) thrown in. The colour of the liquid was much darker than usual, which explains the difficulty of the diagnosis; and even to the naked eye it was plain that the colour of the liquid was due to scales of cholesterin, with which it was loaded.—*Med. Times and Gaz.*, Jan. 31, 1880.

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Analysis of Forty-five Cases of Excision of the Hip-joint.

At a late meeting of the Clinical Society of London Mr. CROFT, in continuation of the discussion which had originated at the preceding meeting (see *Medical News and Abstract* for February, p. 109), presented an analysis of forty-five cases of hip-joint excision, and remarked that his aim was to show that the operation may be made a successful one, and that greater success attends it when performed before abscesses have opened than later. In every case, before operation other means had been tried to arrest the progress of the disease. Ten cases had urgently needed speedy relief; thirty-five had been treated in the hospital for more extended periods, varying from one month to a year, and no case was operated upon until threatening abscess had manifested itself. Forty-five operations had been performed on fifty-four patients, one child having both joints excised; eighteen cases were cured; eleven were under treatment or observation; six patients had died from causes referable directly or indirectly to the operation; one child died of diphtheria; nine patients had been relieved by operation, but had died, some at long periods, some at shorter periods of time, from causes not attributable to the operation.

Tables giving full details were shown of the eighteen cases cured; twelve cases were exhibited. In fourteen there were movable joints affording flexion and extension, and nine enjoyed a considerable range of flexion, and could perform adduction and abduction to some extent. Four could stand alone firmly and steadily on the limb which had been operated upon. In each patient the limb was straight, without any permanent flexion on the pelvis. Each child stood erect, without any lordosis of the spine. In many the apparent shortening amounted to 3½ inches; but the femur on the diseased side was longer than was apparent, probably from the preservation of the trochanteric epiphysis and the subperiosteal operation (Sayre's) having been done. Of the eighteen cured cases, twelve were instances of chronic panarthritis, commencing, as he thought, in the synovial membrane; and six were instances of disease commencing in ostitis and ending in necrosis. In six, abscess had been incised and sinus had persisted; but in only two of the eighteen cases were the sinuses chronic in duration. In three, perforation of the acetabulum had taken place; whilst in the cases recorded in the list of deaths, chronic sinuses had been open in eleven, and perforation of the acetabulum had been found in five. Thirteen patients had been under treatment in the hospital for periods varying from two days to three months, four from three to six months, and one for eleven months, before operation was resorted to. The total number of the dead was sixteen, including four cases in which, with his present experience, he should not think excision to be the best treatment. The deaths were spread over fourteen years. Five deaths occurred from preventable disease—viz., one from diphtheria, three from pyæ-

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mia, and one from septicæmia. Six were attributable, directly or indirectly, to the operation—viz., one from septicæmia, three from pyæmia, one after suppuration in the bone following erysipelas (from shock of amputation at the hip ten months after excision), and one from thrombosis and asthenia sixteen days after excision. The causes of death in the nine other cases (not attributable to operation) were—one from tubercular meningitis, seven from tubercular disease with amyloid viscera, and one from tubercular phthisis and disease of other bones than the pelvis. He had followed up these cases in the interest of science, and though it seemed a large proportion of failures to cures, he ventured to think that, with improved diagnosis, by operating in good time, and by improved methods of operation and after-treatment, the proportion of failures will be considerably diminished.

After some further remarks, Mr. Croft said that several points might be taken up—*e. g.:* 1st. The advantages which he claimed for early, or relatively early, operation. 2d. Formulæ with respect to indications for operative interference. 3d. The mode of operating with reference to the periosteum, the leaving behind the epiphysis of the great trochanter, the line of section through the femur, free removal of parts, the line of incision through the soft parts, and the employment of antiseptics. 4th. The mode of after-treatment. 5th. The causes of failure in excision of the hip-joint. 6th. The comparison of limbs after excision with limbs of those who get well without operation. 7th. The time taken to get well by those not operated on compared with that taken by those successfully excised. As to the indications (No. 2) for operation, he said that when there was fluid in and about the joint and starting pains, an antiseptic incision should be made, to be followed by excision if pus associated with panarthritis (strumous disease) be present or if necrosis existed. The causes of failure (No. 5) were attributable to too late postponement of operation, not removing enough of the diseased parts, not allowing free exit for discharge, and not operating antiseptically. Excision of the hip was less successful than that of the knee, because the disease (*e. g.*, of acetabulum) could not be so thoroughly eradicated. Lastly, he advocated early operation (No. 1) because—(1) in cases of tubercular disease early complete excision affords the best prospect of cure; (2) immediate relief from pain of tension and spasmodic starting pains; (3) that it is made before muscles are much atrophied or altered by inflammatory products; (4) it shortens the duration of suffering and illness; (5) it enables the child to go about earlier than it could if left without interventive treatment; (6) it enables the surgeon to procure a painless, movable joint at the hips; (7) the shortening is only a trifle more than it is in the most favourable cases of anchylosis after destructive strumous disease of the joint.—*Lancet*, Dec. 27, 1879.

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A New Method of Excising the Hip-joint.

At the same meeting Mr. R. W. PARKER subsequently read a paper on a New Method of Excising the Hip-joint, and made some general remarks on the pathology and treatment of the disease.

Mary Y——, aged eight years, admitted into the East London Children's Hospital, March, 1879. For two or three weeks previously she complained of acute pain in the knee and right leg generally, and was kept in bed; she had been feverish and lost appetite. On admission the upper part of the thigh and region of the hip were found much swollen and very painful. There was no appreciable fluctuation; the soft parts in the groin were slightly œdematous. No enlargement of glands. Passive movements caused considerable pain. An extension with weight was ordered. About a fortnight after her admission the

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following note of her condition was made, after being examined under chloroform: "Hip moves freely; no deep fluctuation detected; there is no grating in the joint. Knee-joint is much swollen. Temperature is high and variable." A low typhoid condition supervened, and for a time she was very ill. At the end of another month she had materially improved in her health, but her local trouble, on the other hand, continued to progress. An abscess now formed in the upper part of the thigh, which had to be opened. Eleven weeks after her admission she was again chloroformed, in order the better to examine the joint. Grating was found, and there was a free discharge of pus from the wound. An incision was made from the anterior superior spine of the ilium downwards, along the anterior border of the great trochanter, cutting between the sartorius and rectus muscles on the inner side, and the tensor and glutei on the outer side. The diseased bone was sawn off *in situ*, and then extracted with sequestrum forceps. While examining the acetabulum a portion of the epiphysis of the femur was found loose and necrosed. The child made a slow recovery. She can now get about, but there are still some open sinuses. Notes of some other cases of epiphysial necrosis were summarized.

The clinical features common to all, or the majority, were—progressive disease in spite of perfect rest in the recumbent position, with extension applied for an average period of three months; comparatively short duration of antecedent symptoms; the early formation of abscesses; young age of the patients. The pathological features were in all cases extensive caries of the neck of femur, epiphysial necrosis, destruction of capsule, free suppuration. The above case was selected because it illustrated three points on which the author would like to offer some observations—(1) As to the modes of operating generally in use; (2) as to the frequency and significance of epiphysial necrosis; and (3) as to the results of the disease with and without operation.

This new method of operation was proposed because it avoided the necessity of cutting across the large muscles attached to the great trochanter, which must necessarily be divided in order to expose the joints from behind. He advocated also the use of a keyhole saw in order to avoid injury to the periosteum and other structures, which forcibly wrenching out the head of the bone would probably occasion. And, without laying too much stress on the mode of incision, it was desirable that this question should be introduced, as the final results of the operation were yet far from satisfactory. He had found epiphysial necrosis in five out of eight cases. It was not until Mr. Hulke referred to it at a former meeting of the Society that he was aware that the condition was considered unusual. He believed, however, that it would be more frequently found if the operation were done in an earlier stage, for if caries of the neck of the femur were the common pathological condition of "hip disease," then this separation ought frequently to occur in consequence of the altered nutrition of the epiphysis. It was all very well to say that hip disease could be cured by rest and sea air. The disease unfortunately occurred among those who could not have these advantages, and hence it assumed very unfavourable conditions. Neither did hospital treatment always avail, as his own cases showed. Hence the importance of deciding on the best operative treatment. He believed that the unsatisfactory results of incision were largely due to delay in carrying them out, for secondary diseases were induced, which quite precluded a satisfactory result. He thought that an exploratory incision should be made into joints, when the disease continued to progress in spite of treatment during three months, and if signs of destruction of the joint occurred before this. The question of excision could then be decided upon.

Mr. HOLMES said that he was much interested in this operation, and formerly

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had often performed it. He had not recently collected his cases, but a few years ago he had published his results in the work referred to by Mr. Croft. It was self-evident that the results of excision depend entirely upon the indications selected for the operation, and these indications must vary with the circumstances of each case. Excisions were less common in private practice, where more care was taken in the treatment of these cases from their commencement, and for this our hospital system was inadequate. Cases go from hospital to hospital, continuous rest is not obtained, and eventually they come to excision. He could not agree that the best treatment for abscesses in the neighbourhood of joints was to lay them open antiseptically. The indications were the other way, excision being deferred until actual evidence of destruction of cartilage was obtained. The result of the operation is in itself inferior to the result of natural cure. It is true that in the latter case there is much shortening, but the limb is stronger and more serviceable. He had never seen a patient who could *stand* on the leg after excision of the hip; for, as a general rule, there was undue mobility, and therefore instability—due, as could be seen on dissection, to lengthening and laxity of the ligaments. But patients with anchylosis after natural cure had strong and serviceable limbs, although they might be ungainly in their movements. But there were cases in which excision was called for to preserve life and health, and the efforts of surgeons should be to seek indications to discriminate these cases. It was necessary in such cases as one he had seen Mr. Pick deal with the other day, where there was acetabular disease; and in those which Mr. Parker had cited, where the epiphysis formed a sequestrum; or where a limited amount of disease existed in the neck of the femur which could not be got rid of without excision. There were those cases too, to which Mr. Parker had alluded, which went from bad to worse, in spite of treatment. He allowed that he used to think excision justified in cases where abscesses had formed and the joint was carious, but he now thought that some of these had a chance of cure if free drainage were encouraged. The rate of mortality should not influence the question; for obviously if the cases were only operated on in a very advanced stage the mortality would be high, and every recovery in such circumstances a clear gain. If the operation were done early, the deaths would be fewer, but the gain less. He congratulated Mr. Croft on his success, but took a little exception to the freedom of his measures. Excision of the hip would never be so successful as that of the knee, owing to the difficulty of removing all the disease—*e. g.*, of the acetabulum. He had no experience of antiseptics in this operation, but his results had been much the same as those of Mr. Croft—namely, about one-third died, one-third were cured, and one-third remained in a doubtful condition.

Mr. Hulke said they were indebted to Mr. Croft for his comprehensive analysis, viewing, as he had, the cases from so many sides. At the close of the last meeting they had been under the impression that the rate of mortality in Mr. Croft's cases, in consequence of the operation, had been as high as one-third of all the cases; and his own (Mr. Hulke's) experience, although much more limited, was so different that he ventured to express surprise at the figures. Mr. Croft had, however, now clearly shown that in many of these cases the deaths were not due to the operation itself. In his own hospital practice (for, like Mr. Holmes, he had never had occasion to perform excision in private practice) he found that out of 313 cases of diseased joints in the last ten years, there were 86 examples of hip-joint disease, about 6 of which perhaps were not strictly "morbus coxæ." In these 80 cases he had performed excision 16 times—*i. e.*, 1 in 5; and in only one case could death be fairly attributed to the operation, a proportion probably similar to most others. As to the indications for operating,

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he agreed with Mr. Holmes. For even in some of the cases shown by Mr. Croft he doubted whether incision had always been called for. For instance, there was one case which had been operated on after a month's illness, and no evidence of a previously open abscess existed. A more valuable indication than the local evidence was the manner in which the disease was telling on the general constitution. If, in an advanced stage of local disease, the patient be yet in fair health, excision was called for; but if he were losing ground in the earlier stages he would leave him alone. As to the methods, he preferred the external incision, as affording a dependent opening for free drainage; and he always washed out the cavity with chloride of zinc, according to the plan introduced by the late Campbell de Morgan. He claimed to be antiseptic in his practice, always endeavouring to prevent putrefaction; but if by "antiseptics" Mr. Croft meant Listerism, he had never adopted that. Mr. Hulke concluded by drawing attention to a form of splint which he used in these cases. It was applied to the other side, and allowed the joint operated on to be freely exposed.

Professor LISTER was much pleased to hear Mr. Hulke's remarks upon the use of chloride of zinc. Ever since Mr. de Morgan had drawn attention to it he had himself employed it, for it has the remarkable property of preventing putrefaction for two or more days in spite of the presence of septic elements. Wherever, then, putrefaction is already present this salt was of great benefit, and he was sure that he had seen cases which would have died had it not been used. He could understand Mr. Hulke's results since he used that combined with free drainage. He had never seen a case in which amputation of the hip was called for in preference to excision. Since seeing Professor Sayre illustrate his method at the Philadelphia Congress he had followed that plan, which involved only a limited incision, did not require the ligature of any vessel, and gave free access to the joint, whilst the subperiosteal section was of great advantage. The importance of a freely dependent opening was in favour of the posterior incision rather than the ingenious plan introduced by Mr. Parker. The last case he had operated on was in a young lady twenty-five years of age, the subject of hip-disease from early childhood. The limb was flexed, and riddled with profusely discharging sinuses. He excised after Sayre's method, broke through the anchylosis, and found the acetabulum to be perforated. All the diseased bone being cleared away, chloride of zinc was applied, and now three weeks after, there was far less discharge than at any time before the operation. That was an instance of excision in private practice, and it would have been wrong to have refused the patient the benefit of it. He could not concur in the view taken by Mr. Holmes as to treatment of abscesses in the hip, where the skin is unbroken. When assured that the abscess communicates with the joint we are bound to open that abscess, using such measures as we can to prevent putrefaction. At this point of surgical history it was not enough to treat such abscesses by "free incisions and washing out." To his mind it would be monstrous and horrible to open such abscesses without antiseptic precautions. He could never forget the feeling he experienced in the first case he so dealt with from a knowledge that the results would be different from those with which hitherto all had been so familiar. He would mention three cases he had had at King's College Hospital of abscesses connected with the hip in adults. If treated by simple incision, frequent washing out, and free drainage, the result might have been different from what it was. One was a young woman in whom the inflammation was attributable to sleeping in a damp bed; the second was a man in whom it had followed acute rheumatism; and the third was in an old woman, also rheumatic in origin. In each case the abscess was opened and treated antiseptically; no fever followed, and no shortening of the limb. No one could imagine the satisfaction at such issues; for had these

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cases been treated in the ordinary way, probably all three patients would have died.

In strumous cases—where shortening exists, with or without perceptible grating—he should open the abscesses antiseptically, and often more useful limbs are thus preserved than by excision; and even in advanced cases, for it was surprising what may be done by repair. In one case he had at Edinburgh, treated on this plan, he removed much carious substance, and the case went on so well that he thought it would not come to excision. No pus was formed, and the patient was almost well, only a small sinus oozing serum remaining when the antiseptic dressings were given up. Suppuration followed, and excision had to be resorted to. He therefore urged strongly that if they wished to do full justice to their patients they ought to use antiseptic measures when the skin was unbroken. There should be no difference in their practice of hospital patients and private cases. If hospital cases were to be deprived of all the benefits they could bring to them, then hospital accommodation was shamefully and disgracefully inadequate.

Mr. Morrant Baker had performed excision of the hip in twenty-four cases at St. Bartholomew's and the Evelina Hospitals, two of which only had died from any cause attributable to the operation. There was no reason why this operation should be followed by exceptional mortality, when done with sufficient care. It was unnecessary to push the head of the bone out of the wound before sawing it off; there was comparatively no shock, and he did not think the risks greater than those in the removal of a sequestrum from the tibia. His practice was always to cut through the neck of the femur and leave the trochanter. It was not necessary to remove all the diseased bone; were this done, the whole shaft might sometimes require removal. Removal of the trochanter left a weaker limb. A perfect result was not always obtainable. Many of the subjects of morbus coxæ were tuberculous or the victims of amyloid disease, and all the operation could do was to improve the condition and prolong life. He concurred with Messrs. Holmes and Hulke that very much depended on the selection of fit cases; and no definite signs or general rules could be laid down for this. They must depend on their individual judgment and experience, and, unless this was done, cases might be operated on early which would have got well if left alone. In his experience it was not rare to find the head of the bone, detached as a sequestrum, loose in the acetabular cavity; in eleven out of twenty-four instances this had been the case, and that was a strong reason for performing excision in such cases; for were it not done the dead bone would become locked up in the cavity and be a constant source of irritation. He had brought one of his cases—a boy—in whom the head of the bone was thus detached, and in this case he also removed a part of the acetabular margin, which was also quite loose. Amyloid disease was not, in every case, a bar to operation. A lad of fourteen, in St. Bartholomew's Hospital last year, gradually developed amyloid disease; his liver enlarged and albuminuria appeared. Excision was performed, and from that time the signs of amyloid disease had steadily diminished. Had not excision been practised he doubted if the boy would now be alive. Of course if it were proved that cases did as well without interference he would cease to excise. But knowing as he did how many of these cases, if not interfered with, went on from bad to worse, how amyloid disease developed, and it was obvious that death would be the only termination—he could not hesitate performing an operation which was frequently merely a matter of the removal of dead bone. They were much indebted to Mr. Croft for raising the question, and he believed that the result would be an earlier resort to excision than now prevailed.

Mr. J. Wood had performed excision of the hip in all classes of cases, some where there were no open abscesses, some where amyloid disease was present;

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and he had come to the conclusion that the operation was one which had been abused. For there were cases which could be treated by extension, etc., and such should not be operated on. The tendency of modern surgery seemed to be rather meddlesome. He believed that if cases were seen early enough and treated scientifically there would be less need for excision. It was significant how rarely excision was necessary in the upper and middle classes, showing that neglect of treatment by rest among the poorer classes was a prime reason for the cases becoming so severe as to demand excision. Excision of the hip was not a formidable operation, and he had frequently witnessed the remarkable fall in temperature and improvement that followed its performance. His method was similar to that mentioned by Mr. Baker; and in children he dissected off the cap of cartilage from the trochanter. Attention to drainage was of prime importance. In one case, where a large unopened abscess extended half way down the thigh, and in a very emaciated subject, he had opened the abscess (not antiseptically), injected chloride of zinc, and practised free drainage. When the abscess cavity had contracted, he performed an exploratory operation (the case was one where the acetabular cavity had travelled upwards), and, finding the head of the bone to be bare, he excised this, as well as a portion of necrosed acetabulum. He had removed considerable portions of pelvic bones with security. As to the time for operative interference, he agreed with Mr. Baker that no one symptom alone should be relied on. But when, on exploration, dead bone is felt, this should be removed. This could generally be done by opening up the sinus in the interior of the thigh, and reaching the joint beneath the tensor vaginæ muscles, and detaching the muscles attached to the trochanter. He agreed as to the impropriety of forcibly pushing the head of the bone through the wound. By the use of a special saw the neck could be divided above the small trochanter, and removal effected after having previously dissected off the periosteum from the great trochanter of an adult, or detaching the cartilage of a child. He would operate in these cases, but not in those where nature was sufficient to effect a cure. He perfectly agreed with Mr. Lister as to giving poor and rich alike all the advantages derived from improved skill, and, although his practice had been successful, yet if an iota of advantage were to be gained by using Listerian precautions, he would always adopt them.

Mr. MacCarmac pointed out that the subject involved the two questions—(1) as a saving of life, (2) as preserving a useful limb. The mortality in Mr. Croft's cases was not large, seeing the condition and stage at which some of the patients were operated on. He had himself had eighteen cases, with two deaths; and doubtless had he traced their subsequent history as diligently as Mr. Croft had done, he would have found that many had died at later periods. The fact that many of these cases began in inflammation, leading to necrosis, was a strong reason for early operation. Further, there was good reason to believe that a large proportion were of tubercular nature. Koenig, of Göttingen, found tubercular disease of the bone to exist in sixty-seven out of seventy-one cases, and that was a strong point in favour of the early removal of the primary focus. The mortality after excision of the knee used to be very high, but now, since the operation was performed in less advanced cases, the results were far more satisfactory. Without wishing to lay too little stress upon reasons for delay, he yet held that in many cases excision should be done early if good success was to be had.

Mr. Howse congratulated Mr. Baker on his profession of faith in the value of excision of the hip. It was of the more consequence, because it came from a surgeon who had, not very long ago, entertained different opinions, and who was not easily convinced. As his colleague at the Evelina Hospital for Sick Children, he had seen nearly all the cases operated on, and he could assure the meeting

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there was not one in which the operation had been performed in an early stage of the disease, or for other than the most grave forms of the affection. If then such results were obtainable by operating upon the worst cases, what might be expected when the affection was operated upon in an earlier stage? For his own part, he believed excision of the hip one of the best abused operations of surgery. It was so because it was looked upon as a *dernier ressort* in hip disease, and hence was made use of at a stage of the affection, often when lardaceous or miliary tuberculosis was impending, when it could be of very little use in saving the patient. In his own experience (and he had performed a very large number of these operations) excision of the hip-joint was an operation involving very little danger to the patient. The bleeding was small, and when performed antiseptically the shock was slight, and the general constitutional disturbance very little. He believed, therefore, the operation might with advantage be used at a very much earlier stage than at present. Whatever might be thought of the advisability of excisions when the joint cavity was simply distended with pus, before the stage of cartilage destruction, he himself entertained no doubt of the benefit to be obtained from this operation when grating was perceptible in the articulation. And he did so on account of the difficulties in such cases of diagnosis of the exact pathological state of the bone. It was true, as Mr. Holmes said, that some of the cases where grating was perceptible did well with simple incisions, rest, and extension, but it was only a small percentage of such cases. If the bone was healthy the case might do well by such treatment, but the comparatively small proportion of cases in which the bone remained healthy was shown in Mr. Baker's patients by the number of times in which he removed sequestra from the joint. Granted, then, a case of grating hip-joint, it was next to impossible by physical signs to determine, short of excision, whether the bone was in a healthy state or not. And as the removal of the head of the bone added very little, if any, to the risks of the operation, he preferred to complete it in this way. Indeed, he would be prepared to go much further than this, and say that excision was justifiable before the stage of grating was reached, when, in fact, the joint was distended with pus, and showed progressive signs of getting worse after treatment by rest and medicinal means. With a patient lying in bed and emaciating from pain and hectic, excision was often the only successful means of arresting the disease.

As regards the method of operation, he preferred to remove the trochanter major. He regarded free drainage after the operation as of primary importance, and the presence of the trochanter impeded this. If the trochanter were not cut away the muscular attachments to it were also generally not severed, and these muscles, contracting after the operation, drew up the limb and caused the trochanter to act as a kind of shield over the cavity of the acetabulum. If, subsequently, there were any sequestra to come away from the bone, they tended to be retained longer in this way than they would be if the trochanter were removed. As far as the treatment of carious acetabulum was concerned, he did not believe in the value of gouging it away. The bone was often so softened in such cases, and it was so difficult to determine at the time of the operation what bone was recoverable and what not, that gouging might be carried much too far, and then the pelvic fascia opened up, with considerable risk subsequently of pelvic abscess. His own rule of late had been, that if a sequestrum had existed loose to remove it, but otherwise to leave the acetabulum alone. He believed that better results would be obtained in this way than by too much meddling with it.

Mr. CROFT, in reply, said that Mr. Holmes's statement that a limb after natural cure was superior to a limb after excision, appeared a formidable fact; but that

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should not weigh in deciding as to intervention. Mr. Holmes confessed his inability to give any indications of the cases where there was no necrosis and those in which there was necrosis, the crucial point in the matter. Where there was tubercular disease, as Mr. MacCormac pointed out, it was most important to extirpate the focus of possible inoculation. The specimens on the table would show that in not one of his cases was the operation uncalled for, and until any indications better than those he had followed could be furnished he would not yield his point. He had given his facts, and was prepared to stand by them. No such indications had been given by those who had spoken. The case of the child criticized by Mr. Hulke was one of acute necrosis, and no surgeon would refrain from interference in such a case when the head of the bone was already dislocated and the child was intensely suffering. He had adopted Sayre's method, using a longitudinal incision in the majority; a small number he had done by a Y-shaped incision, and he preserved the great trochanter or its periosteum, in order that firmer union might result, avoiding division of muscles from the trochanter. He doubted, after all, whether much difference of opinion really existed on the question; but he adhered to his opinion that the presence of pus in the joint pointed to advancing disorganization, and that in all such cases the surgeon should incise antiseptically, and if, on exploring, necrosis be found, he should then excise the head without delay.—*Lancet*, Dec. 27, 1879.

Midwifery and Gynæcology.

Double Uterus with Double Conception.

Dr. M. A. CACHOT reports (*Pacific Med. and Surg. Journ.*, Jan. 1880) the case of a lady, now aged 35 years, who was under his care formerly for eight years. He first treated her for typhoid fever, in St. Mary's Hospital, and afterwards for irregular and painful menstruation. After the use of a great variety of therapeutic means, her health was much improved. But the menstrual flow never could be regulated. It invariably appeared twice a month, a few days intervening between the two periods. The former of the two periods was very painful, the succeeding one perfectly painless. This was prior to her marriage. After her marriage she left the city, and when he next saw her, it was on account of her returning to the city to be confined.

In due time labour set in with great violence, and was very tedious, lasting twenty-three hours. The os uteri continued for a long time very hard and rigid, and the uterus appeared abnormal in form, as if containing an intra-mural tumour of the size of a large egg Labour terminated favourably with the birth of a living child, which weighed seven and three-quarter pounds. Spontaneous expulsion of the placenta followed, it being of the normal size. Two hours after delivery, hemorrhage came on, but was controlled by ergot and ice. The patient now improved rapidly, but three days afterward there was some return of hemorrhage, with pains simulating labour. On vaginal examination, Dr. Cachot found the uterus perfectly contracted, and no blood flowing from it. On searching for the source of the blood, he found on the left side of the uterus, immediately under the supposed tumour, another os dilated to the size of a half-dollar, and a fœtus presenting, which was extracted without difficulty. According to its appearance, it was about three months old, and very much decomposed, its death having taken place during the former labour, or some time before. After the removal of the

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fœtus, hemorrhage ceased immediately, and recovery was very rapid, the patient being up in twelve days.

In the sixth month following, menstruation returned, and she has since given birth to another child, without difficulty, and without the aid of a physician.

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A Case of Spontaneous Version.

M. TÉDENAT records (*Lyon Médical*, Dec. 7, 1879) the case of a primapara in whom pains began in the evening; next morning at 2 A. M. membranes ruptured; at 8 P. M. she was admitted into the maternity, examined, and the shoulder found to be presenting, the back anterior and the head in the right iliac fossa; the os being as big as a florin. She was examined also by the chief surgeon of the maternity, and preparations made for turning. While things were being got ready, a sustained powerful uterine contraction affected the left half of the uterus, the right remaining flaccid; the head therefore could be easily made out through the abdominal parietes, and felt to be slightly raised. Then followed another similar contraction, but passing more to the right; with this the upward movement of the head was more pronounced, and the vaginal finger, instead of touching the shoulder, came upon the axilla. After six or seven more contractions, the transverse presentation was changed into one of the breech, in the left oblique diameter, dorso-anterior. An hour after, the labour spontaneously terminated in the birth of a living child. It was noticed that most of the uterine contractions began at the left and passed to the right side of the uterus. The placenta was retained, and on examination found to be encysted in the right horn of the uterus, which was incompletely bicorned, a median spur forming a projection from the fundus of five centimetres in height, and prolonged as a distinct raphé along the posterior wall. Commenting on the case, M. Tédenat points out that spontaneous changes of the presentation during the last few weeks of gestation are not infrequent. Schröder found such changes in six out of 214 cases, and the author in five out of sixty. The size of the child, the length of the cord, the dimensions of the pelvis, and the quantity of liquor amnii he thinks probably the factors which determine the occurrence of such mutations. He finds that most authors attribute to partial contraction of the uterus a large *rôle* in the production of these alterations. In his own case, the right and left parts of the uterus acted as would have done the hands of an accoucheur performing external version. He agrees with Pollaillon in thinking that a bicorned condition of the uterus predisposes to transverse presentations, the septum preventing the long axis of the fœtus from corresponding to that of the uterus.—*Obstetrical Journal of Great Britain*, Jan. 15, 1880.

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Hot Water for the Induction of Premature Labour.

Dr. BENICKER related at the Berlin Obstetrical Society (*Berlin Klin. Woch.*, Dec. 29) a case of dropsy of the amnion, showing the advantage of inducing premature labour by irrigating the vagina with water at a temperature of 40° R. (122° Fahr.), to which some carbolic acid had been added. Two injections in the evening brought on pains which increased during the night, and after two other injections in the morning the cervix became well dilated. Dr. Benicker recommends this procedure as an energetic means of exciting labour without injury to mother or child. Its effects will vary according to the degree of excitability of the uterine fibres in different women. Mr. Möricke related a case in which he had in vain attempted to induce premature labour by injecting first pilocarpin, and afterwards hot water, which was employed five times. He eventually succeeded by means of a bougie. Dr. Runge, who had already published a successful case, cited an-

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other in which the injection failed. All trials that have been made show the harmlessness of the procedure for the child. Dr. Veit referred to a case in which excessive rigidity of the soft parts was overcome by the injections. Dr. Wegscheider stated that many years since hot-water injections were employed in Berlin, but were given up on account of the bad effects they were supposed to have on the child.—*Med. Times and Gazette*, Jan. 31, 1880.

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A Case of Sudden Death of the Mother at the End of Pregnancy, with Post-mortem Section and a Living Child.

Dr. STORCH of Copenhagen records in the *Centralblat für Gynäkologie*, No. 25, 1879, the case of a patient who suffered for some time from albuminuria and œdema of the lower extremities, was 30 years old, a primipara, and had several years ago suffered from rheumatic fever. Her circumstances were comfortable. Towards the end of her pregnancy the patient complained of breathlessness and general disturbance, with much restlessness. The only indication of cardiac disease was a weak systolic murmur audible over the aortic valves; there was much hydramnios. The patient was suddenly seized with a fit of coughing and intense dyspnœa, during which she sprang out of bed, and seated herself in a chair in a condition of intense cyanosis. An attempt was made to give relief by venesection, but no blood would come. A few seconds afterwards she died. About 8–10 minutes after death Cæsarean section was performed, and a well-developed male child removed. The entire operation lasted about half a minute. The child was pale and relaxed. Dr. Storch, however, perceived a feeble and slow pulsation in the cord, about 70 beats in the minute. The cord was speedily tied, and persistent efforts at resuscitation continued for an hour and a half, the methods employed being the rhythmical blowing of air into the chest through a silver catheter, alternating with Schulze's method of artificial respiration. These were followed by complete success, although a full half-hour passed before the child made its first, feeble spontaneous inspiration.—*Edinburgh Med. Journal*, Jan. 1880.

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Ovarian Pain during Pregnancy.

Dr. CHAIGNOT arrives, after the study of many cases, at the following conclusions. Abdominal palpation practised at the end of pregnancy may, in a certain number of women, produce a sudden and sometimes very sharp pain near the sides of the uterus. This pain, in addition to its being provoked, is always of short duration, and clearly localized. If the conditions of the examinations remain the same, the physician can always reproduce them at will. It only appears when a small movable tumour of ovoid form is pressed against the uterus. He believes with Budin that the above-named small tumour is nothing else but the ovary, which is painful when compressed. It appears to be necessary for the production of this pain that there must be a resisting surface behind the ovarian tumour, such as the dorsal surface of the fœtus, or the contracted uterus. The ovarian pain appears most frequently on the left. This is due to the inclination and twisting of the uterus, which turns its left border forwards and produces the frequency of occipito-iliac left anterior positions. The most frequent spot for the pain is near a line drawn from the anterior superior spine of the ilium to the umbilicus, generally a few centimetres above it, during the last month of gestation. The average distances are from 8 to 10 centimetres from the anterior superior iliac spine; from 17 to 19 centimetres from the umbilicus, and 6 centimetres behind the projection formed by the round ligament. His observations do not enable him to affirm the existence of spontaneous ovarian pain during

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pregnancy. He believes it to be possible, but it is necessary that favourable conditions be present. After labour, it is possible in some cases to reproduce the ovarian pain. It is then beneath a line drawn from the anterior superior iliac spine to the umbilicus.—*London Med. Record*, Jan. 15, 1880.

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Utero-Inguinal Hernia: Extirpation of Uterus and Left Ovary.

G. LEOPOLD relates in the *Archiv für Gynäcologie*, vol. xiv., a case of which the following abstract is given in the *Centralblatt für die Med. Wissenschaften* for October 11th. The subject, a well-developed woman aged 28, had experienced menstrual molimina since the age of fourteen; there was no discharge of blood, but she had for several days severe pain in the left groin. In this situation, an irregular tumour of the size of a plum swelled up considerably at each catamenial period, and was again diminished in the intervals. As her general health was much impaired, and eight years of married life had remained unfruitful, Dr. Leopold was consulted. He found in the left external inguinal fossa a tumour as large as half a hen's egg; this he took to be an abnormally placed ovary, from the median pole of which a strong cord could be traced as far as the left labium majus. On the right side, behind the horizontal ramus of the os pubis, a small cylindrical body could be felt. The vagina was a small *cul-de-sac* 1.2 inch deep; nothing could be felt in it but the bladder and rectum. At the next menstrual period, the face was noted to be bloated and of a dark brown-red colour; there were also epistaxis, convulsions, and rigors; and the tumour in the inguinal canal enlarged. Dr. Leopold now removed the tumour. It was found to be the upper section of a small uterus, traces of which disappeared in the form of a scarcely perceptible cord. The ovary, the Fallopian tube, and the small uterus were removed; the pedicle was securely ligatured and returned; and the wound closed. The patient made a good recovery, and had no return of the menstrual molimen. In the removed uterus was a cavity as large as a pea, filled with mucus, and having a smooth mucous membrane and a delicate vascular network. Blood had apparently not been effused into the cavity. Dr. Leopold regards the case as one of imperfect development of the Müllerian ducts, the left one of which was drawn into the inguinal canal. The ovary that was removed showed signs of active formation of follicles; the uterine horn always swelled considerably; and nevertheless there was no discharge into the uterine cavity.—*British Med. Journal*, Jan. 3, 1880.

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The Pain in Pelvic Cancer, and its Relief by Morphia.

At a recent meeting of the Obstetrical Society of London, Mr. CHAMPNEYS read a paper on this subject. The larger part of his communication consisted of a clinical study of fifty cases in the wards of St. Bartholomew's Hospital, and was illustrated by fourteen tables, dealing with the ages of the patients, the first symptoms noticed, the seat of pain, its locality, the date of its commencement, its quality, amount of intensity, and the relation of pain to hemorrhage. The analysis showed some points of departure from what have been considered established facts; for instance, as many of the patients were from thirty to forty years of age as were from forty to fifty; and, again, pain rather than hemorrhage was the first symptom noticed. On these the author remarks that his cases were only fifty, and can therefore not overthrow Dr. West's larger number of 166, but suggests that as this part of the question cannot be founded on objective facts, but must depend on the patient's memory, which memory might be supposed to retain hemorrhage rather than pain, it may be supposed that pain, as a first symptom, may occur oftener than is usually imagined.

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It was shown that cancer may be painless at almost every stage, but it was remarked that of the author's cases none were painless in which hemorrhage was absent. The seat of pain was carefully ascertained by making the patient lay her hand or finger on the spot. The localities were most various, the region of prevalence of uterine pains being seen, however, to be mainly bounded by the line of the sacrum above and of the knee below. It is remarkable that the pains were six times as common on the left as on the right side, which cannot depend on the locality of the disease, but must depend on the difference with regard to sensation between the two halves of the body, a difference seen also in the common left-sided pain of females and the preponderance of left-sided hemianæsthesia; "Man is not an absolutely bilaterally symmetrical animal." Aching of the whole front of the thighs and pain transfixing the body are believed by the author to be at least uncommon except in cancer. Backache amounted to 24 per cent., pain in lower abdomen to 14 per cent., pain in the groins to 18 per cent., of all pains.

It was shown that no relation existed between intensity of pain and duration of disease. Thirty cases showed the pain to be worse post-meridian than ante-meridian. The author suggested a connection between pain worse at night and pain relieved by bleeding as possibly depending on the increase or diminution of vascular tension in the diseased tissues, which is illustrated by the nocturnal tightening of bandages, and he remarked that in all his painless cases there was bleeding. Three remarkable cases are given at length of nervous affection, in one of which there was paroxysmal nocturnal motor and vaso-motor disturbance of one, then of both legs, depending probably on irritation reflected at the spinal cord. Of the methods of administering morphia, the hypodermic injection was shown to be by far the most, and the suppository the least, effectual.—*Lancet*, Jan. 24, 1880.

Medical Jurisprudence and Toxicology.

Poisoning by Aniline.

M. LELOIR recently made a communication to the Paris *Société de Biologie* on the phenomena of poisoning which had supervened in patients affected with psoriasis, to a limited portion of whose skin bandages saturated with a solution containing chlorhydrate of aniline had been applied. These patients had nausea, algidity, cyanosis, cramps, dyspnœa, and sleepiness; the urine contained fuchsine. M. Leloir had studied aniline poisoning experimentally. The phenomena observed in dogs, into the veins of which thirty grains of aniline were injected, were perfectly analogous to those found in man. The urine was scanty, and contained fuchsine; the saliva, on the contrary, was rather abundant, but did not contain either fuchsine or aniline; the blood was of a brownish tint, the corpuscles under microscopic examination appeared healthy. Nevertheless, blood-lesions seemed to be the cause of the symptoms noted. In several cases, there were epileptiform convulsions, which were not present in cases where the animal was killed by a series of weak injections; death then supervened by cold. M. Quinquaud has made experiments on the same subject, and has also noted, besides the appearances observed by M. Leloir, a diminution of hæmaglobin, and a remarkable incapacity of the undestroyed hæmaglobin to absorb oxygen. M. Laborde reminded the Society that the workmen in aniline works are subject to epileptiform convulsions.—*British Med. Journal*, Jan. 31, 1880.

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MEDICAL NEWS.

A LEAVE-TAKING.

WITH this number my direct relations cease with the readers of the periodicals which have so long borne my imprint and that of my predecessors. It would be futile to assert that I can without regret look upon the sundering of a personal connection which has existed now for thirty-seven years; but that regret is lightened by the fact that I relinquish the business management of the "JOURNAL" and the "NEWS" at a time when they are enjoying to the utmost the favour of the profession, and that in introducing as my successors the firm of HENRY C. LEA'S SON & Co., I feel that the responsibilities which I am putting off devolve upon those fully equal to them.

In a country so young as this, it does not often come to pass that a business house passes through an unbroken line of descent to the fourth generation. Yet such is the case with the one, founded well-nigh a century ago by Mathew Carey, in which I have so long formed a part, and which I hand down, I trust, with its honourable traditions of usefulness and fair dealing unimpaired. For the new firm I can ask nothing more than a continuance of the very cordial relations which have during this long period been maintained between their predecessors and the profession.

HENRY C. LEA.

March 1, 1880.

The Library of the New York Academy of Medicine.—We are happy to learn that the negotiations which have been for some time pending for the fusion of the libraries of the New York Academy of Medicine and the New York Journal Association have been at last successfully brought to a close by the Journal Association being merged into the Academy. The library of the Academy now numbers ten thousand volumes, and three thousand have been received from the Journal Association, and it is stated that another library of one thousand volumes will be soon added, and that the Library Committee expects that, before the close of this year, the total number of volumes will reach twenty thousand. It is the intention of the Academy to keep the library open in the evening and to establish a circulating department for medical journals on the plan heretofore practised by the Journal Association.

The existence of small medical libraries scattered here and there over a large city is a great misfortune to those who use them. The pride felt by the members of each society in its possessing a library is vastly more than counterbalanced by

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the great inconvenience which results to them from the uncertainty where to find any particular book which happens to be needed, or from having to consult several libraries widely distant, with the consequent loss of time, in the prosecution of a study upon any particular subject. A medical society's library exists for the benefit of the whole profession in its locality and should be so conducted; and it is much wiser for the individual members of the profession, rather than waste their money in the administration of, and in necessarily duplicating books for, several small libraries, to economize their resources and unite their means in building up one principal library to which they can resort with the knowledge that whatever wealth of literature exists among them is there to be found.

It is for these reasons that we think the Academy of Medicine and the profession of New York are to be congratulated on the absorption of the library of the Journal Association, and we are sure that the first to recognize the wisdom of this step will be the members of the Journal Association itself.

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Wickersheimer's Preservative Fluid.—The *Berliner Klin. Wochenschrift*, No. 44, 1879, publishes an official memorandum by the German Minister of Education, etc., with reference to a new preparation for preserving dead bodies, animals, or plants, which has been invented by Herr Wickersheimer, of the University Museum at Berlin. The formula had been patented, but by arrangement with the Government the patent has been annulled within the limits of the German Empire. The composition of the fluid is as follows: Alum 100 grammes, common salt 25 gr., saltpetre 12 gr., potash 60 gr., and arsenious acid 10 gr., are to be dissolved in 3000 gr. boiling water. On cooling, the liquid is to be filtered. To every two and a half litres, supposing a large quantity to be prepared at once, a litre of glycerine and 250 ccm. of methylic alcohol are to be added. Herr Wickersheimer states that the bodies of animals or men preserved with this fluid retain their form, colour, and pliability completely. After several years the muscles look as fresh on section as if they belonged to a recent corpse. For embalming purposes the body is first injected with the fluid, in the proportion of one litre and a half for a child of two years, and of five litres for an adult. It then is immersed in a bath of the fluid for several days, after which it is rubbed dry, swathed in bandages wetted with the fluid, and preserved in an air-tight case. For bodies which are to be dissected, the injection alone suffices. Small vertebrates and invertebrates can be kept simply immersed in the fluid, or if wanted in the dry state may be in it six to twelve days, and then be taken out and dried in the open air. Hollow organs, such as the lungs and intestinal tract, are best injected with it before immersion. The process seems to have the recommendation of simplicity and cheapness, as well as that of its preserving the natural colour and the pliability of the objects treated by it. It is certain that its merits must have been well tested before receiving the *imprimatur* of the German Government.—*Med. Times and Gazette*, Dec. 6, 1879.

At a recent meeting of the Academy of Natural Sciences of Philadelphia, Dr. Leidy stated that this liquid was almost identically the same as that which had been used at the University of Pennsylvania for years, by the late Dr. Horner and himself, and it was simply a modification of the fluid used in the West for the preservation of hams, arsenious acid being substituted for the starch of that mixture.

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Massachusetts State Board of Health.—Dr. Henry I. Bowditch has tendered to the Governor his resignation as a member of the amalgamated Board of Health, Lunacy, and Charity, owing to the trebling of his duties, and the impossibility of his attending to them without serious injury to his private business. Dr. Bow-

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ditch has been Chairman of the State Board of Health since its organization in 1869, and his resignation is a serious loss to the sanitary interests of the State, which will be felt far beyond its own confines.

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Medical Society of the State of New York.—The seventy-fourth annual meeting of this Society was held at Albany on the 3d, 4th, and 5th of February, under the Presidency of Dr. Henry D. Didama, of Syracuse. The attendance of delegates was large, and many very interesting papers were read.

The following officers were elected to serve for the ensuing year: President, Wm. H. Bailey, M.D., of Albany; Vice-President, Dr. A. Jacobi, of New York; Secretary, Dr. Wm. Manlius Smith, of Manlius; Treasurer, Dr. C. H. Porter, of Albany. The next meeting will be held at Albany on the first Tuesday in February, 1881.

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Iowa State Medical Society.—The twenty-eighth annual meeting of this Society was held at Des Moines, January 27th, 28th, and 29th. Dr. G. P. Hanawalt, of Des Moines, President, in the chair. The following officers were elected for the ensuing year: President, S. B. Chase, M.D., of Osage. Vice-Presidents, Drs. T. J. Caldwell, of Adel, and L. J. Alleman, of Boone. Secretary, Dr. J. T. Kennedy, of Des Moines. The next meeting will be held at Dubuque.

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The Abuse of Indiscriminate Medical Relief.

A conference between the Medical Charities of this city and the Philadelphia Society for Organizing Charity was held last month with a view to the development of a plan by which the abuse of the existing indiscriminate medical relief may be abated. Dr. H. Lenox Hodge, on behalf of the Committee of the Philadelphia Society for Organizing Charity, presented the following recommendations:—

First. That all applications for relief shall be made in the first instance at the offices of the Medical Charities.

Second. That applicants with families in receipt of $9 a week or more, unmarried persons receiving $6 or more, persons living out at service, are able to employ a physician, and should be refused treatment; and that applicants should be so advised through the cards of the Medical Charities, as well as by notices placed on the doors of the service rooms.

Third. That applicants who may be admitted to treatment shall be required to pay for their medicine, or to deposit ten cents at each visit in a box provided for the purpose, unless exempted through procurement of a certificate of the ward superintendent of the Society for Organizing Charity, on which the words "unable to pay" shall be noted. This condition should also be placed on the cards and on the notices on the doors of the service rooms.

Dr. Frederick R. Sturgis, of New York, by special invitation, detailed the workings of the fee system in the dispensaries of that city. This system was adopted in the New York Dispensary in 1876, and the income to the Dispensary from this source in that year was $852.44. The next year the machinery began to work smoother; 95 per cent. of the men, and 75 per cent. of the women, against 50 per cent. of them the previous year, were found able to pay the small sums demanded, and $3462.29 was received that year.

The meeting adopted the following resolutions:—

Resolved, That efforts should be made to prevent the pauperizing and enervating influences of undue and indiscriminate medical relief.

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Resolved, That measures be taken to arrange the dispensary system so as to cover the whole city, in order to afford relief to the poor in every part at an office near to their homes, and to prevent overlapping in the treatment of cases.

Resolved, That a committee be appointed to carry into effect the plan which has been proposed to-night, or such modification of it as they and the several hospitals and dispensaries may deem advisable.

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Meetings of State Medical Societies.—The following State Medical Societies will hold their annual meetings next month:—

Tennessee State Medical Society, at Knoxville, April 6.
Mississippi State Medical Society, at Vicksburg, April 7.
Alabama State Medical Society, at Huntsville, April 13.
Medico-Chirurgical Faculty of Maryland, at Baltimore, April 13.
South Carolina State Medical Society, at Columbia, April 20.
Georgia State Medical Society, at Augusta, April 21.
California State Medical Society, at San Francisco, April 21.

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National Convention for Revising the United States Pharmacopœia.—The attention of "incorporated Sate Medical Societies, incorporated Medical Colleges, incorporated Colleges of Physicians and Surgeons, and incorporated Colleges of Pharmacy throughout the United States," is again invited to the importance of sending delegates to the National Convention for Revising the Pharmacopœia, which will meet in Washington on the 5th of May next. Each body is entitled to three delegates. It is requested that the names of delegates shall be forwarded to Dr. James E. Morgan, 905 E Street, N. W., Washington, D. C.

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Gift of a "Loving-Cup" to the New York Academy of Medicine.

Mrs. John Jacob Astor has presented to the New York Academy of Medicine a beautifully wrought "loving-cup," "as a messenger of a true sympathy in the purposes of the Society" and with the expressed hope that it "may procure a moment's pleasure to those whose days hold, necessarily, so large a measure of care and sacrifice." It is of solid silver lined with gold, about a foot high and six inches in diameter. Its surface is ornamented by the acacia, the symbol of friendship and love. On the front is the seal of the Academy, its motto, and the head of Hippocrates. Above is the name of the President, Dr. Fordyce Barker, and the date of his election, with spaces left for the names of his successors, while on its upper part, beneath the rim, is engraved the sentiment, "Peace and love be multiplied unto us."

Mrs. Astor, a few months ago, also presented to the Academy a check for two hundred dollars, to be expended in the purchase of books for its library. This liberality, so graciously bestowed, is but another evidence of this bountiful lady's intelligence, benevolence, and philanthropy.

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Public Honours to a Medical Victim.—The Paris municipality recently resolved that the names of the medical officers, students, or attendants, who died in consequence of the execution of their duty, should be inscribed on a tablet erected at the hospital at which the calamity occurred. M. Herbelin, an interne at the Sainte Eugénie, who has just died in the twenty-eighth year of his age, in consequence of diphtheria contracted in that hospital, makes the fifth victim during the last twelvemonth, three of the number having been internes. At the request of Dr. Lannelongue, whose *chef de service* he was, the President of the

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Republic conferred on him prior to his death the Cross of Officer of the Legion of Honour, which seems to have given great satisfaction to the profession in Paris. His obsequies, too, assumed a quasi-public character in order to testify the sense entertained by the government, the municipal authorities, and the profession, of the self-sacrificing nature of the services rendered by the deceased and so many of his predecessors.—*Med. Times and Gaz.*, Jan. 17, 1880.

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Literary Notes.

It will, we doubt not, gratify our numerous friends and readers to learn that the consolidation of the *News and Abstract* has met with a most hearty response from all quarters. In view of the diagnosis which, since the demise of the British and Foreign Medico-Chirurgical Review, some of our weekly contemporaries have been in the habit of making, that the day of "quarterlies and monthlies" has passed, and that their own form of journalism will alone suit the future wants of this fast age, it may be not without interest to our subscribers to have the assurance that the AMERICAN JOURNAL OF THE MEDICAL SCIENCES finds its sphere of usefulness as wide as ever; that its subscription list was never in a more healthy condition than at present, and that, so far from its mission being ended, it has every prospect of a career in the future even more prosperous than in the past.

The last number of the *Revue Internationale des Sciences Biologiques* (Jan. 15), has for its leading article a translation of Dr. C. K. Mills's excellent review on "Cerebral Localization," which appeared in the AMERICAN JOURNAL OF THE MEDICAL SCIENCES for July, 1879. It may be justly held to be a high endorsement of the merit of Dr. Mills's treatment of the subject, that it should have been considered desirable to reproduce the review in the country where so much original work has been done to advance our knowledge in this special line of research.

Dr. George M. Beard has in press a work on "Nervous Exhaustion," to be published by William Wood & Co.

G. P. Putnam's Sons announce a "Student's Manual of Venereal Diseases," by Dr. Frederick R. Sturgis; a treatise on the "Throat and its Functions," by Dr. Louis Elsberg; and a work on the "Human Eye in its Normal and Pathological Conditions," by Dr. Adolph Alt.

Houghton, Osgood & Co. have in press a translation of a monograph on the "Utricular Glands of the Uterus," by Professor Ercolani, of Bologna.

Lindsay & Blakiston have just published the "Spectroscope in Medicine," by Dr. Chas. A. MacMunn, of Dublin, and a clinical lecture "On the Internal Use of Water for the Sick," by J. Forsyth Meigs, M.D.

Macmillan & Co. have also just published Mr. Brudenell Carter's new work on "Eyesight: Good and Bad," and H. K. Lewis a monograph on "Experimental Researches on the Regional Temperature of the Head," by Dr. J. S. Lombard, formerly of Harvard University.

Dr. Lionel Beale is engaged on a work on "Slight Ailments: their Nature and Treatment."

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Personal.—Professor Paul Broca has just been elected a life-senator by the French Senate.

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OBITUARY RECORD.—At his residence in Wiltshire, on the 1st of January, aged 70, HENRY HANCOCK, F.R.C.S., formerly President of the Royal College of Surgeons.

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—— At Clevedon, on the 9th of January, aged 69, WILLIAM BUDD, M.D., F.R.C.S., formerly of Bristol. Dr. Budd contributed a number of valuable papers to medical literature, but he is best known by his able and exhaustive treatise on "Typhoid Fever, its Nature, Mode of Spreading, and Prevention," which was published in 1873, and at once established his reputation as an acute observer and logical thinker. So far back as the year 1839, when he was assisting his father during a severe epidemic of typhoid fever in North Tawton, Dr. Budd arrived at the conviction that the fever was communicated from person to person, and that the specific poison which is the cause of the fever breeds and multiplies in the living body of the infected person, as is the case in smallpox, scarlet fever, and some other diseases; and nowhere else. Continued observation led him to the conclusions that this specific poison is cast off from the intestines; and that the excreta from the intestines may communicate the fever to other persons in two ways—either by contaminating the drinking-water, or by infecting the air. Dr. Budd insisted that the ravages of typhoid fever might be immensely diminished, or even entirely prevented, by proper sanitary measures rigidly carried out—viz., by the *immediate* disinfection of all discharges from the bodies of persons suffering from the disease, of all articles of bed and body linen, and of closets and drains; and by the universal maintenance of good drainage and sewerage, and of a supply of water not exposed to contamination.

—— At Boston, on the 9th of January, of heart disease, J. WINTHROP TAYLOR, M.D., late Surgeon-General U. S. Navy.

Dr. Taylor was a native of New York, and entered the Navy as Assistant-Surgeon in 1838. He was made a Surgeon in 1852, and Medical Director in 1871. Since 1873 he has been attached to the Naval Rendezvous at Boston.

—— At his residence in this city, on the 11th of February, in the sixty-first year of his age, JOHN NEILL, M.D., late Professor of Clinical Surgery in the University of Pennsylvania.

Dr. Neill graduated at the University of Pennsylvania in the Arts, in 1837, and in Medicine in 1840. In 1845 he was appointed Demonstrator of Anatomy in the University; in 1847 he was elected Surgeon to Wills Hospital; in 1852, Surgeon to the Pennsylvania Hospital; and in 1855 Surgeon to the Philadelphia Hospital. In 1861 he was appointed Surgeon-in-Charge of the Military Hospital in this city, and organized the first eight general hospitals. In 1874 he was appointed Professor of Clinical Surgery in the University of Pennsylvania. He contributed a number of valuable articles to the *American Journal of the Medical Sciences*, and was also the author of "Short Descriptions of the Arteries, Nerves, Veins, and Lymphatics," with coloured plates; was joint author of Neill and Smith's Compendium, and was the American editor of Pirrie's Surgery.

—— At Notting-hill, on the 21st of January, aged 65, EDWARD CATOR SEATON, M.D., Medical Officer of the Local Government Board.

Dr. Seaton contributed the article on Vaccination to Reynolds's "System of Medicine," and in 1867 he wrote his well-known "Handbook of Vaccination," which is a complete and elaborate exposition of the subject of which it treats. He was an acknowledged authority on all matters relating to Vaccination.

—— At Balham, on the 25th of January, J. A. LOCKHART CLARKE, M.D., F.R.S., aged sixty-three years.

Dr. Clarke is everywhere known by his valuable investigations into the minute anatomy and pathology of the central nervous system. His researches on some of the affections of the spinal cord and medulla oblongata gained for him the great distinction of the Royal Medal of the Royal Society. He also discovered a new method of investigating nervous tissue which entirely revolutionized histological research.

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THE

MEDICAL NEWS AND ABSTRACT.

VOL. XXXVIII. No. 4. APRIL, 1880. WHOLE No. 448.

(For List of Contents see pp. 255-6.)

CLINICS.

Clinical Lectures.

CLINICAL LECTURE ON DISEASES OF WOMEN,

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

BY T. GAILLARD THOMAS, M.D.,

PROF. OF THE DISEASES OF WOMEN IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

[Reported by P. Brynberg Porter, M.D., and Revised by the Author.]

CASE I.—*Very Marked Anteflexion of the Uterus, giving rise to Nocturnal Incontinence of Urine.*

GENTLEMEN: This patient, whose name is Mary R——, is twenty years old, a native of the United States, and single. Her case would not ordinarily be considered of much consequence; but I regard it as a very important one for us, because it illustrates so perfectly the necessity of making a physical examination whenever anything in the history points towards the pelvic viscera. The chief symptom, and there is apparently only one of any consequence here, is a very curious one, and it would otherwise remain a complete mystery; while, in the light of such an explanation, it becomes a perfectly simple matter. She states that she has had the trouble of which she is now complaining for seven years, or ever since she was thirteen years old, which is about the time she began to menstruate. Now this is her trouble. She is able to retain her water perfectly all day, but at night when she goes to sleep, it passes from her involuntarily. This nocturnal incontinence of urine is common enough in children, the bladder contracting, and the urine thus escaping after they retire to rest, but it is a very unusual thing to find it in an individual of twenty. The only other things that the patient complains of are, a "feeling of weakness through the body" when she makes any effort, and very severe headache after stooping over. These are obscure symptoms, and need not occupy our time; but the matter of the incontinence of urine is a palpable trouble, and it is for this that the young woman comes here to seek relief.

If such a patient should present herself at the office of any one of you, and you should proceed to treat her without making a vaginal examination,

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you would probably prescribe belladonna, and perhaps electricity in addition, and you would be very careful to have her wake at certain intervals during the night in order to evacuate her bladder in the natural way. After a prolonged course of some such treatment, you would probably begin to wonder why she did not get any better; but if you should then make an exploration of the pelvic viscera, the mystery would at once be solved, and the whole case be made perfectly clear.

Let me tell you, then, what was revealed by the examination which I made here. Although the patient said that she had not passed urine for five or six hours, I found the bladder quite empty, apparently; and this was proved to be the fact when I passed the catheter. The posterior wall of the bladder was pressed firmly against its anterior wall by means of a tumour, which I ascertained to be the body of the uterus in a state of extreme flexion. By conjoined manipulation I was able to recognize and to rock the uterus in such a manner that the diagnosis was complete without the introduction of the sound.

But there is something more about the case which has not yet been alluded to, and that is dysmenorrhœa. The patient stated to me in private that she always suffers intensely at the time of her monthly periods, although she did not mention this when I was questioning her before the class in regard to her symptoms. There are, then, two symptoms of importance which claim our attention in this case, viz.: nocturnal incontinence of urine and dysmenorrhœa; and let us see if the condition of affairs revealed by the examination will satisfactorily account for these.

As to the dysmenorrhœa it is not difficult to understand how that should be one of the symptoms here. The menstrual blood becomes dammed up at the *os internum*, the seat of the flexure, and this excites violent contractions of the uterus to expel it. Presently a coagulum is driven out, and then for a short time the blood finds exit, after which the same thing is repeated, causing the patient a good deal of suffering, until the menstrual period comes to an end. In regard to the incontinence of urine it may either be caused by the irritability of the bladder, from the constant pressure exerted upon it, so that it refuses to retain urine after a certain limit; or it may be that while volition remains the patient is able to resist the tendency to evacuate the bladder to which the pressure upon it gives rise, and that it is only when sleep comes on and the nervous system loses its control of the viscus that it is unable to retain it any longer. But, at all events, there can be no doubt that the incontinence is directly attributable to the anteflexion of the uterus, whose body thus presses with such force and so uninterruptedly upon the bladder.

But, it may be asked, why does not lying upon the back remove the pressure of the uterus from the bladder? Under ordinary circumstances this would be the case; but here the anteflexion is so aggravated that instead of relieving the bladder it only increases the difficulty. The bladder seems to be affected by a kind of spasm, and you know how apt spasm is to come on during sleep. This is the case with spasmodic croup, and spasm of the neck of the bladder, as a rule, comes on just after the patient has awakened from sleep.

Having thus discovered that it is the direct pressure of the flexed uterus upon the bladder that gives rise to the nocturnal incontinence of urine, what is required for the cure of the latter? The answer is very simple: Lift the body of the uterus off of the bladder, and then retain it in its normal position. But although it is very simple to say, "Lift the uterus

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off the bladder," this is sometimes a very difficult thing to do. In the present instance, however, I think it can be accomplished quite readily. The restoration should be accomplished gradually, or very serious trouble may be set up. Placing the fingers of one hand in the vagina, and those of the other on the abdomen, the fundus should be raised but a short distance at first, after which a little pad of cotton may be inserted to retain it in its new position. The same procedure should be repeated over and over again; and after a time, when the organ can be completely restored to its normal place, a properly constructed and nicely-fitting anteversion pessary should be applied, and worn as long as necessary. No medicine whatever would be of the slightest efficacy here, because the trouble is to be looked upon as a purely mechanical one, and I am confident that if we succeed in meeting the indication here presented we will cure the patient; while if we do not meet the indication, no amount of medication can possibly do her any good. This is pre-eminently a case for the hospital, as it is almost impossible to treat such a case in this young woman's walk of life satisfactorily elsewhere; and I trust that she will consent to enter my service at the Woman's Hospital.

CASE II.—*Large Uterine Fibroid; Chronic Ovaritis.*

Our second patient to-day is Margaret W——, thirty-six years of age, and a native of Germany. She has been married fourteen years, and has never had any children, though she had one miscarriage twelve years ago.

Of what do you complain, Mrs. W——?

"Pain in the back."

How long have you had it?

"About two years."

What else?

"When I walk any distance, or do much work, I get very faint, and feel as if somebody had beaten me all over with a club."

Do you ever faint away?

"Yes, sometimes I faint away entirely."

What else do you complain of?

"I do not get my turns as I ought to."

What is wrong about them?

"They do not come at the regular time always, and they do not last long enough."

Do you have much pain at the time of your monthly sickness?

"Yes, I suffer very greatly."

What else do you suffer from?

"Headache."

What else?

"Pains in my shoulder."

What else?

"That is all."

Nothing, gentleman, I assure you, can take the place of clinical teaching, because, at a clinic, each student has the advantage of hearing the history of a patient just as he might elicit it were the latter consulting him at his own office.

This patient says she has been suffering for two years, and yet she seems to look very well. Still, we have good reason to suspect that she is not perfectly healthy from the fact that she has not been pregnant for twelve years, although continuing all this time to live with her husband, and being desirous of bearing children, as she informs me. Well, two years ago

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she began to suffer a great deal with backache, and although she is a healthy looking German woman, with an apparently fine physique, to feel very faint after exertion. Several times she fainted quite away, and this is certainly remarkable in a woman of her build. In addition she complains of dysmenorrhœa and irregularity in regard to the time of the catamenia; and these are all the symptoms that at present require our attention.

Of course, with such a history, I proposed a physical exploration. In some localities, and even among medical men, who ought to know better, there exists, I am aware, a great prejudice against making vaginal examinations; yet there are, of course, in every community a vast number of cases, such as the present one, which cannot be *honestly* prescribed for without such an examination being made. This is what I found on making one here. The uterus was almost in its normal position, though slightly anteverted; but alongside of it, on the right, was what I now show you upon the blackboard, an apparently globular mass as large as a baby's head. Again, on the left side of the uterus was a mass about the size of a walnut.

Now see what a flood of light has already been thrown upon the case by the examination. The physician, having discovered such a state of affairs as this, would scarcely think it worth while to continue to order plasters for her back, for instance, or to go on prescribing remedies for her dysmenorrhœa. In such a case you may not be able to relieve the patient after you have made the examination; but you will, at all events, have performed your duty in making it, and you may save her from a prolonged course of useless medication.

This patient, I may say, was sent to me by her attending physician ten days ago, but as she had at that time just finished menstruating, the large mass was so soft that I could not form a definite opinion as to whether the tumour was an ovarian cyst or a fibroid. So I requested her to return to-day, in order that we might decide upon the character of both the masses by the side of the uterus. To-day the larger of the two is very different to the touch from what it was immediately after menstruation. Then, as I said, it was very soft and succulent; but now it feels so hard as to exclude the idea of its containing fluid, and there can be no doubt that it is a fibroid. At present it has either become detached from the uterus, or else it is connected with it by a long pedicle.

The other mass, on the left side of the uterus, is of an entirely different character. It is exquisitely sensitive to the touch, and I have little doubt that it is an enlarged and prolapsed ovary. Like the large fibroid, however, it too was affected by the congestion of the parts incidental to menstruation, and when I made the examination before, it was both larger and even more sensitive than at present. The diagnosis is, then, chronic ovaritis on the left side, and large uterine fibroid on the right.

I do not know how long this trouble has been going on. The woman herself says, that, while she has been really suffering for the last two years, her symptoms commenced originally long before that; though she does not think there was anything whatever the matter with her more than seven years ago. It is my opinion, however, that this fibroid is the cause of her sterility, and this has now existed for twelve years, or ever since two years after her marriage. Uterine fibroids, as you know, are one of the most frequent causes of sterility that we meet with. But it is only within the last two years that she has suffered from any very definite symptoms.

Now what is the prognosis? Can we succeed in curing this case? In

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all honesty I answer, "No." But if you ask me if I think this trouble will get well, the answer will be different; for when the menopause arrives, such fibroids sometimes undergo calcareous degeneration, and sometimes simple atrophy. But we also know that before the change of life occurs, there are certain remedies which seem to have the effect of diminishing the size of fibroids in a considerable proportion of cases. There are other cases, however, in which these seem to exert no beneficial influence whatever.

There is another question, however, which comes up: Can this growth be removed by operation? Just a month ago, as some of you will remember, I performed laparotomy for the removal of a fibroid of very much the same size as this one. Nor did I hesitate one moment about performing it, although it seemed extremely doubtful whether the patient would recover after it. But, fortunately, she did; and I think I would have been really culpable to refuse to operate in such a case as that was, because the patient would certainly soon have succumbed if active interference had not been practised. In the present instance, however, the circumstances are entirely different, and I should not think for a moment of operating.

The woman is now thirty-six, and in from six to ten years the menopause will occur; when there will undoubtedly take place a certain amount of atrophy in this large mass.

But in the other case there was the most marked abdominal dropsy, for which the patient had been tapped seven times; and during these different operations no less than two hundred and ten pounds of fluid were actually removed from her. From being a person of ordinary size, she had become so reduced that her weight was only ninety pounds.

The lesson that we learn from this case is, then, that simply because a uterine fibroid exists, there is no reason why it should be cut out. Why, if this were the case, about half the women in New York would have to be operated upon, and laparotomy would be performed for the removal of an insignificant fibroid no larger than a hen's egg. The fact that a patient may desire the operation herself, affords no argument in favour of it; nor should it influence us in such a matter, because it is one of the easiest things in the world to induce a woman to have such an operation performed, if it is only presented to her in a sufficiently favourable light.

As far as the present fibroid is concerned, I should suppose that this patient might live to be seventy or eighty years of age. It seems to me probable that it will increase but very little, if at all, in the future; although it is, of course, possible that it may continue to grow larger and larger during the next four or five years, and that after a time it may give rise to abdominal dropsy. When that period comes, it will be time enough to adopt operative interference; and the patient's fate will not be sealed, because we will then have the resources of surgery to fall back upon.

The proper course to pursue in this case at present is to remove the patient, if possible, from any position in which she is obliged to do hard work, either physical or mental, and in the next place to put her upon a very generous diet, including a great deal of animal food; in addition giving her such remedies, like iron, the hypophosphates, and the bitter tonics, as will build up her strength and general health. In other words, we are to do everything for her that will tend to bring her up to a point of physical vigor such as will render it impossible for this abnormal growth to increase any further in size. The very fact that a woman has one or

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more fibroids is an evidence that she does not enjoy perfect health. This is also pre-eminently the case in regard to ovarian tumours; and these I may say are almost invariably met with among the lower walks of life, where the women live poorly and are obliged to work very hard. Although I have had a large experience with these cysts, I have never had but ten cases under my care in which the patients belonged to the highest classes of society. I am constantly meeting them among the poorer classes, and I have noticed particularly that there is always a depreciation of the patient's health before the tumour makes its appearance at all. This circumstance is not so markedly characteristic of fibroids; but, in general, the same rule applies to these also.

But though it would be entirely unjustifiable to operate in such a case as this, there are other methods of procedure which we may attempt for the relief of the trouble. Most of you are, no doubt, familiar with the extraordinary results which Hildebrandt has met with in the treatment of fibroids by means of the hypodermic injection of ergotin; the latter being merely a refined extract of the drug, and not its true alkaloid principle. In six months, he reports, he has repeatedly reduced a fibroid as large as a man's head to the size of a hen's egg. While I see no reason to doubt the statements of such a distinguished authority as Hildebrandt, however, I must say that no one else seems to have been equally successful in this treatment. This may be, however, because Hildebrandt has devoted more care to the systematic use of this drug than other investigators. In a certain number of cases I believe that the method is one of the highest service; and in the present instance I should recommend that about three times a week her attending physician should inject ten drops of Squibb's fluid extract of ergot somewhere in the cellular tissue of this woman's body. Sometimes ergot used in this way has the effect of producing the most violent uterine contractions; but this is to be avoided, and if it is found to occur, the amount of ergot injected should be diminished. What we really expect from the ergot is such an effect in causing contraction of the arteries that the supply of blood furnished to the tumour will be to some extent cut off, and its nutrition thus more or less impaired. When it is impossible to employ the ergot hypodermically, as is sometimes the case, we may use it either by the mouth or rectum; for although these methods are not so beneficial as the first, they are often of very considerable service. It is always unfortunate for such a patient, as I have previously had occasion to remark, to find out that she has a *tumour;* for women almost invariably associate the most terrible consequences with this word, and the moral effect of the discovery, in spite of the assurances of the physician, is apt to be quite bad sometimes.

CASE III.—*Large Uterine Fibroid.*

We have to-day another patient suffering from fibroid, and I have therefore thought it advisable for her to come in immediately after the one who has just left us.

This woman, whose name is Johannah M——, is thirty-four years of age, and I may remark, in connection with this point, that, although we are liable to meet with uterine fibroids at any period of life, as a general rule they do not make their appearance until the patient is over thirty years old. This patient has been married some years, but has never been pregnant. As to the cause of her sterility, perhaps we shall find out something explanatory presently.

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How long have you been complaining?

"Ever since I was married."

In what way have you suffered?

"I do not suffer very much; but when I lie on my back I have considerable pain, and I can feel something like a stone in my stomach."

What else?

"I have a great deal of pain about a week before my monthly sickness comes on."

What else?

"I did have trouble in passing my water; but that is better now."

Is there anything else that you complain of?

"That is all."

Are you able to attend to your ordinary business?

"Yes."

Would you have liked to have a family?

"Yes."

Let me now describe to you, and roughly sketch upon the black-board, what the physical examination revealed here. In the first place, I found the cervix about in its normal position, and it was as small as we ordinarily find it in nulliparous women. Above it, however, there was a hard mass, as large as a man's head, which pressed in a marked manner upon the bladder in part and the rectum behind. Yet when I ask the patient how she suffers, she replies that she does not suffer much at all; for in her case almost the only symptom that usually seems worthy of attention is the sterility. It is possible that this mass alluded to may have existed for more than seven years; but we can hardly form an opinion in regard to that now, and even if it did, it was no doubt so small as to escape notice entirely.

It is a point of great interest to find out where the uterus lies in this case, and what is its relation to the tumour spoken of; and this is revealed by the introduction of the sound. In this way we ascertain that it is in the anterior portion of the mass, as is usually the case where there is a large fibroid of this character. The fibroid has no doubt originated in the posterior wall of the uterus, and has gone on increasing in size until it has involved the whole of the latter, and caused marked anteflexion.

As to the prognosis here it is exactly the same as in the other case. It is impossible to make a positive one, as we can in certain instances, but where the prognosis is certain, it is almost invariably bad, as in well-marked carcinoma, for instance. This fibroid presents some worse features than the one in the last case, and it is undoubtedly the cause of the woman's sterility. Pregnancy, however, would be the worst possible thing that could happen to this patient; because if she went to full term, the chances are that uncontrollable hemorrhage would occur after the delivery of the child.

What treatment shall we adopt in this case? The same remarks in regard to operative interference which were made concerning the last patient are equally applicable here. As to the irritability of the bladder which she has mentioned as having formerly troubled her, if it should return, I think she will find considerable relief from the wearing of a well-constructed abdominal bandage, which will to a great extent remove the pressure of the mass upon that viscus. The patient, I learn, is already under the care of a good physician, who has for some time been employing the method of treatment for the fibroid which I should have recommended

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to him, viz., the hypodermic injection of ergot. She states that for about an hour after the injection she has a great deal of pain and "swells up." These phenomena, I have no doubt, are due to the contractions of the uterus, and also probably of the whole mass of the fibroid, set up by the action of the ergot; and this I have found to be a very frequent result of such hypodermic injections, having noticed it in quite a large number of instances. The pain, she says, does not pass off entirely until after about three hours. Altogether, she considered herself better than she was before the treatment was commenced, and the principal improvement she has noticed is the ease which she now gets at night; whereas she formerly suffered a great deal of pain when she lay down. She loses a considerable amount of blood at the time of her menstrual periods; but the flow does not seem sufficiently profuse to cause any anxiety, In addition to the treatment by ergot, she is also taking appropriate tonics. In regard to the hypodermic use of ergot, I may say in dismissing the patient that it sometimes causes such violent contractions of the uterus that the patient suffers fearful agony; and hence in such cases it is necessary to administer the remedy in some other manner.

CASE IV.—*Retroflexion of the Uterus, with Sterility.*

Our last patient to-day is Emma H——, a native of the United States, and thirty-four years of age. She has been married for fourteen years, but has never been pregnant.

How long have you been sick?

"Well, I have been really sick for six years."

Were you perfectly healthy at the time of your marriage?

"Yes."

What do you complain of?

"Pain in the side and back."

What else?

"I have a bad head. That is, I suffer from pain and dizziness in it, and sometimes feel very faint."

What else?

"I have been unwell for all the last month."

(I wish to pause here for a moment, gentlemen, to impress upon you the importance of always asking "What else" in the examination of patients until you come into possession of *all* the rational symptoms; for, otherwise some very important point may be entirely omitted which might have been of the highest service to you in your investigation of the case. When, some years ago, I conducted a "Diagnosis Class" at Bellevue Hospital, I found it the hardest thing imaginable to get the students to keep on asking this little question, "What else;" for as soon as they received an answer which they thought gave them a clue to the character of the case under examination, they at once started off on a special series of inquiries in regard to the point, and so were often completely misled. Instead of this, the correct way, as I have intimated, is in the first place to get the patient's story complete. But to resume our inquiries here.)

How about your monthly sickness ordinarily?

"I have always been perfectly regular up to the past month."

And since your last period you have been losing blood all the time up to the present.

"Yes."

Do you usually have much pain at the time of your monthly sickness?

"Yes, a great deal."

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Do you have the whites?

"Yes."

I suppose you have never done anything to avoid pregnancy.

"No, sir."

Here, you see, is a perfectly healthy woman, who has been married for fourteen years without ever becoming pregnant; and hence we should be inclined to infer that she is not so entirely healthy as she looks. The two principal symptoms in her case we find to be sterility and dysmenorrhœa for the menorrhagia of which she complains is only of very recent origin. In looking back over the four interesting cases which we have seen to-day, you will notice that dysmenorrhœa was a prominent feature in all of them; and yet it is due to an entirely different cause in nearly every instance. In two of the women, you will remember, its cause was uterine fibroids. Twenty years ago, when the study of gynæcology was as yet almost in its infancy, dysmenorrhœa was considered a disease. Now we know that it is just as much a symptom as cough is.

The other symptoms of which this patient complained were, leucorrhœa and constant discomfort in one side; so that the necessity for resorting to a physical examination here was obvious. On employing conjoined manipulation, I at once discovered that the body of the uterus was not to be found in its ordinary position, and that there was some sort of a tumour or mass lying back of the cervix. When the posture of the patient was changed, and the probe was introduced, the latter was proved to be the body of the uterus in a state of marked retroflexion; as seemed highly probable from the condition of affairs found before the probe was resorted to. Retroflexion is, then, the diagnosis here, because it offers a satisfactory explanation of all the symptoms met with in the case.

In the first place, the sterility is undoubtedly due to it, because such a malposition of the uterus must almost necessarily prevent seminal fluid from passing up into its cavity. But while the entrance of seminal fluid is prevented, the retroflexion does not cut off the egress of menstrual blood; though it interferes with it to such an extent that much suffering is thereby caused to the patient. The menstrual blood must get out of the uterine cavity in some way; aud if it cannot do so by means of the natural exit, it will force a passage through the Fallopian tubes into the peritoneum (as has been known to occur in certain rare instances), and form a "hæmatocele by regurgitation," as it is called. As to the leucorrhœa, that is easily explained by the constant state of congestion, in which the uterus is kept by its malposition; and the pain about the pelvis of which the patient complains is due to the tension upon the uterine ligaments and the direct presence of the retroflexed organ, which also gives rise to obstinate constipation of the bowels.

This is undoubtedly the most curable case that has been before us. I should not venture to say to either of the other patients that I could cure her; but here I do not hesitate to assert that the woman can positively be cured without any difficulty. I am willing to make this assertion from the fact that the uterus can readily be restored to its normal position. When the organ has been replaced, therefore, it only remains to maintain it in position by means of an appropriate pessary; although I think the probability of conception would be somewhat increased if the os internum were dilated from time to time with curved sounds. Still, it is best not to be too confident in regard to this point; as sterility is always a very uncertain thing to treat, whatever may be its cause.

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CASE OF FEMORO-POPLITEAL ANEURISM, WHICH HAD BEEN LAID OPEN BY MISTAKE, AND IN WHICH THE OLD OPERATION (THAT OF ANTYLLUS) WAS PERFORMED.

A Clinical Lecture Delivered at St. George's Hospital.

BY T. HOLMES, F.R.C.S.,
Surgeon to the Hospital.

You lately had the opportunity of seeing a case which is so rare in its occurrence, and which conveyed so many important surgical lesions, that I must recall your attention to it.

The notes of the case may be thus summarized. The patient was a young man aged 29, a labourer, in fairly good health. He had had syphilis about six years ago, but no secondary symptoms. His habits were, as far as is known, moderately temperate. A year ago he fell from a wall about eight feet, and soon afterwards noticed a tumour in the calf of the right leg. No pulsation was ever noticed in this swelling. He was treated as an out-patient at St. Mary's Hospital for three weeks, after which he says that the swelling had quite gone. Five or six weeks ago, after a good deal of walking, he was loading a cart with coals, when he suddenly felt a sharp shooting pain down the right thigh, with a sensation as if something had given way about its middle; and half an hour afterwards, he noticed in this situation a swelling as large as a hen's egg. He went to bed, and remained in bed for a fortnight, after which he went to a neighbouring infirmary. During this time, the tumour steadily increased in size, but did not pulsate as far as he noticed. On his admission into the infirmary, careful examination was made in order to detect pulsation or *bruit*, but neither could be found. The tumour was twice explored with a grooved needle, and only dark-coloured blood was evacuated. On the day of his admission into this hospital (March 6, 1879), the tumour was punctured with a knife by the assistant of the surgeon to the infirmary. A jet of arterial blood issued from the puncture. The assistant plugged the wound with his finger, and sent for the surgeon, who enlarged the incision to the extent of about two inches. This was followed by a very formidable gush of blood. The wound was plugged with lint steeped in perchloride of iron, a tourniquet was applied, and the man sent to the hospital. When he arrived, the limb was much swollen, cold, and blue, and the patient much exhausted by hemorrhage.

With this history before me, my impression was that the tumour would probably be found to be of a cancerous nature, with a large blood cyst. It was clearly either this or an aneurism. In any case, the first thing to be done was to freely lay open the cavity. Accordingly, Esmarch's bandage was applied, and an incision about eight inches long was made, when the cavity was seen to be filled with the laminated clots externally and soft clots in the centre, which are characteristic of aneurism; and when all these had been removed, it was seen that there was no solid tumour, nor was it very clear whether the membrane which lined the cavity was a perfect sac or not. I determined to tie the vessel in the sac, and attempt to save the limb. It was by no means easy to find the opening of the artery; but at length what appeared to be the lower part of the sac was reached, situated quite in the popliteal space, and on tracing this round to its cæcal extremity, it was found to overlap a somewhat indistinct orifice about the size of a No. 10 catheter; and through this opening a probe passed for an unlimited extent downwards. This was accordingly taken to be the lower or distal opening of the vessel, and a silk ligature was tied around it. No proximal open-

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ing could be found, however, in this situation; but on trying to trace the continuity of the vessel upwards, the great sciatic nerve was seen exposed for about three inches. Afterwards, the artery was looked for at the upper part of the tumour, and here an opening was found, from which the probe passed easily in both directions—upwards and downwards—and it was quite easy to dissect the vessel out from the neighbouring tissues. A ligature was passed round the artery both above and below the orifice, and then the bandage was taken off. No bleeding followed, except from a few insignificant vessels in the sac. These were tied, and the cavity was filled with carbolized lint, the wound being left open. When the bandage was removed, warmth began to return to the limb, which was then enveloped in cotton-wool, and the patient put to bed. The operation was a protracted one, lasting about an hour. His circulation was occasionally so low that it was necessary to suspend the anæsthetic.

I have been thus particular in describing the operation, because it is one rarely seen; but I need not detain you very long with the future progress of the case, especially as you have access to the copious notes and accurate drawings which my clinical clerk, Mr. Dale, made of it. The warmth and sensation of the foot at first seemed to return, but soon the whole dorsum of the foot began to slough, and the walls of the large incision also sloughed to a very great extent. When this latter slough cleared away, all the ligatures dropped off except the one tied on the proximal end of the artery, and the pulsation in the vessel could be seen down to this ligature on the eighth day after the operation. This ligature held on till the eighteenth day, when it came away without any hemorrhage. Meanwhile, the sloughing on the leg and foot extended and deepened; but the man remained free from any alarming general symptoms, and his complexion gradually regained a more natural hue. Amputation was delayed till April 3d, at which time all the soft parts on the dorsum of the foot had come away, exposing the tarsal bones, the joints between which were widely open, but the skin remained on the end of the toes. The gangrene of the skin had not spread beyond the level of the middle of the leg, so that it was hoped that a stump could be formed below the knee; but on cutting into the parts there to form the anterior flap, the muscles were found so rotten and so infiltrated with foul matter, that this idea was given up, and I amputated through the knee-joint, leaving the patella, as I believed that the parts forming the stump (which appeared perfectly healthy) would derive sufficient nourishment from the branches of the superficial femoral and profunda arteries; but in this I was disappointed. All the parts forming the anterior flap sloughed *en masse;* the end of the femur was freely exposed, with its cartilages; and so the unfortunate patient was condemned to a third operation. After the amputation, he suffered for a time from considerable shock; but this gradually subsided, and he seemed doing well; when, on May 15th, he was seized with a sharp attack of hæmaturia, for which there was no apparent cause. No antiseptic dressings were used during the whole case, and only occasionally a little weak carbolic lotion to syringe the sloughy cavity. The hæmaturia, however, passed off as it had come, though occasional sickness seemed for some days to testify to some kidney-irritation. At length, on June 6th, he seemed well enough to bear the removal of the exposed bone. Accordingly, I removed the patella and about four inches of the lower part of the femur, by simply pushing them through the remains of the great incision at the inner part of the thigh. The parts consolidated slowly round the end of the femur; and he left the hospital July 16th. He was seen again Aug. 9th, with the stump nearly healed.

Besides several minor points of interest, this case presents these two questions of primary importance: 1. How far was the original error of diagnosis avoidable, or, in other words, how far was the treatment pursued prior to the man's admission censurable? and 2, Was the course which I followed the right one?

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As to the first point, the history is no doubt a remarkable one. In the seventh volume of the *St. George's Hospital Reports*, I wrote a paper on the Diagnosis of Aneurism, in which I collected and commented on most of the recorded cases of failure of diagnosis, in which I showed that almost all of them proceeded from negligence in examination, for that there was clear evidence that in the great majority the tumour had never been auscultated. At the same time, I adduced proof—and amongst others a striking case under my own care—to show that there have been cases of aneurism in which the most careful palpation and auscultation have revealed neither pulsation nor *bruit*. The practical caution which I deduced from these histories is the following. "Fluctuating tumours in the neighbourhood of large arteries should never be opened (unless they are visibly and unmistakably abscesses) without a previous careful examination of their history, their pulsation, their *bruit*, the effect on them of compression of the main trunk if possible; and finally, in case the doubt remains, an exploratory puncture. If this very common-sense precaution were observed, we should hear less of mistaken diagnosis in aneurism." You will possibly say that this is no novelty. I can only reply that the observance of this precaution would have saved many a life and many a surgical reputation. But in the case before us, all this had been done, except perhaps the experiment on the effect of pressure on the femoral above the tumour, which, however, ought never to be omitted in a doubtful case. The paper in question contains distinct proof of its high diagnostic value.[1] With this reservation, I do not see what more could have been done to establish the diagnosis. As to the treatment pursued at the infirmary, it might be perfectly correct up to a certain point. I am unable to estimate the indications for laying open the tumour, as I did not see the patient; but can easily understand that they might have been, and very probably were quite sufficient. It was evidently increasing, and seems to have been producing considerable obstruction to the venous circulation. But I cannot help thinking—and this I wish strongly to impress on you as a practical caution—that when it was judged necessary to make an incision into a tumour of doubtful nature situated

[1] The passage to which I chiefly refer is the following (*St. George's Hospital Reports*, vol. vii. page 181). The case is reported in Pirogoff's *Klinische Chirurgie*. "A man who had before suffered from a phlegmonous abscess in the thigh, and who was rheumatic, presented himself with a large inflamed swelling, indistinctly fluctuating, below the pectoral muscles and in the axilla. Not doubting that it was an abscess, Pirogoff had the scalpel in his hand to open it, when it occurred to him to auscultate the swelling. A low *bruit* revealed the true nature of the case. The symptoms are not very fully given; but the subclavian was ultimately tied. The patient died, and, on dissection, it was found that there was a small opening in the axillary artery, and the swelling consisted of blood extravasated under the pectoralis minor. From these cases, Pirogoff deduces the practical rule, never to open a deep-seated swelling, however plainly it may fluctuate, without previous auscultation, though he points out that *bruit* may exist in swellings which are not aneurismal (such as medullary cancer), and that in swellings which are in all probability aneurismal, the *bruit* may only be audible in parts. He thus sums up the whole subject: 'If I were asked what signs I hold most decisive of the existence of an aneurism which does not pulsate, I must confess that, if there be no *bruit* to be heard at any part of the tumour, I know of no other than these two—(1) collapse of the swelling, sometimes only to a slight extent, when the main artery is compressed between the heart and the tumour; and (2) if the pulsation of the artery can be felt upon the surface of the tumour, an unnatural extension of its impulse; for example, over twice the usual breadth of the vessel. But, in order to satisfy one's self of these two phenomena, it is, of course, necessary to examine the case repeatedly, and with the greatest attention. The diagnosis must not be founded on a single examination.'" Reference may also be made to a paper on aneurisms which do not pulsate, by Mr. Morrant Baker in the new (15th) volume of *St. Bartholomew's Hospital Reports*.

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on the course of the main artery, and which had been previously twice explored with the result of showing that it contained blood, and, as far as we know, blood only, no incision should have been made without ample preparation for the ulterior proceedings, which are so likely to prove necessary; *i. e.*, amputation or the ligature of the artery. You saw the dangerous condition to which this man had been reduced, even after the short journey to this hospital, and you could easily imagine what would have been the consequence of a similar accident in a remote part of the country.

Next, as to the treatment which I pursued. To a certain extent, it was successful, as the man escaped with his life. But it is clear that if the thigh had been amputated at once, he would have been exposed to far less danger, and would, in all probability, have recovered some months sooner. Yet I am not on that account inclined to admit that I was wrong in performing the old operation, and so giving the patient a chance of preserving his leg. True it is, that the previous loss of blood and the œdema and coldness of the limb resulting from the prolonged compression rendered success improbable; but I think the attempt was a justifiable one. I am, however, free to admit, that, when I was forced to amputate, it would have been better to do so at the level of the upper ligature on the femoral artery. This would have saved the man some weeks of suffering, and given him probably a better stump.

I was hardly prepared for the difficulty which I experienced in finding the orifice of the artery in the sac. Even now, I must confess that I could not describe the state of parts with any confidence in the accuracy of my description, nor explain by what I found at the operation the singularities of the previous history of the case. That the upper ligatures were tied on the femoral artery was plain, both from the fact that it was really dissected out of the tissue of the sac at the time of the operation with something approaching distinctness, and also from the fact that after the separation of the sloughy walls of the cavity, the artery could be seen pulsating down to the ligature in this situation. But I confess to entertaining very great doubt whether the ligature which was first tied was really placed on the artery at all. I regard it as more probable that there was a rent in the sac through which the probe passed, and that what I tied around the probe was really a portion of the sac itself. If you consult the history of a case in which Mr. Syme laid open an aneurism in the iliac fossa, and believed himself to have tied the common, external, and internal iliac arteries (*Med. Chir. Trans.*, vol. xlv.), you will find that only the external iliac was really tied, one of the ligatures having probably been placed on a portion of the sac, and the other two on the external iliac above and below the opening. Nor is such an error at all surprising. It is not always an easy matter, even on the dead subject, to dissect out the artery from the interior of the aneurismal sac; and on the living, besides the necessity of some reasonable speed, even when the circulation is completely commanded, there are many sources of fallacy from which the dissection of the parts after removal from the body is free. As far as I could judge, however, I should conjecture that the femoral artery had given way, either completely or nearly so, somewhere near the opening in the adductor magnus, and the blood had poured into the cellular tissue of the limb (both in the thigh and popliteal space), making for itself an imperfect sac. At the upper part this sac seemed more firm and membranous; at the lower, it was less distinct and very probably wholly deficient at the part where the sciatic nerve was seen. If we adopt this view, it would get rid of one of the most difficult questions in the case, viz., why was there no pulsation? I have already, I think, insisted sufficiently (both in my paper above alluded to in the *St. George's Hospital Reports* and in other writings on Aneurism) on the indubitable fact that in almost all

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cases of mere rupture of an artery without the formation of a sac, pulsation is absent. *Bruit*, too, appears sometimes to be absent, or at least not to be heard; for it is possible that in some of these cases at least the *bruit* has been low and only audible over a limited part of the tumour, and so has been missed (see Pirogoff's cases quoted in my paper). The former appearance of a non-pulsating tumour in the same situation which disappeared without any further symptoms is strange, and I cannot offer any probable explanation of it, unless it may be that a small rent then formed in the artery which closed spontaneously.

The rupture of an artery at a comparatively early age and without proof of general disease of the arterial system is, I dare say, rare; but I do not think it is so rare as is often believed. I have seen several cases which hardly admitted of any other explanation, and there is a preparation in our museum which bears so great an analogy to what I believe occurred in our patient, that I have thought it right to bring it into the lecture-room.[1] It shows the common carotid artery, in which, just below the bifurcation, there is a small opening leading into an enormous sac in the cellular tissue. The patient's age was the same as that of the subject of the present lecture—twenty-nine. The rupture occurred from no known cause, as he was at his ordinary work—that of kneading bread. The first symptom of it was a diffused swelling, which gradually became circumscribed and pulsated with a whirring sound, then became again diffused, and lost its pulsation. No operation was undertaken, and the patient died of suffocation. The history is rather incomplete, as the case occurred thirty-five years ago, before the present system of recording the histories of all cases along with their *post mortem* examinations was commenced. In this preparation, there are one or two small patches of atheroma near the orifice of the sac, but the chief part of the artery is healthy. You will at once see in how many respects the history of this case resembles that of our present patient. An artery gives way without known cause; a diffused swelling is the result, which pulsates when the sac is entire, but loses pulsation when the sac bursts. In the case which furnished the preparation, the old operation would have been, to say the least, very difficult, and might have proved impossible. But if it could have been completed without fatal hemorrhage, it would doubtless have saved the patient's life.

The lessons which the present case teaches may be summed up as follows: 1. It affords another example of the occasional existence of aneurisms (so-called) which do not present the ordinary symptoms of pulsation and easily recognized *bruit*. On this subject I have said as much as I usefully can in the paper to which I have already referred you. 2. It shows the difficulties and ambiguities which surround the old operations when performed in such cases. The cases usually present a large ill-defined and probably imperfect sac and a relatively very small arterial opening. 3. It shows the danger of meddling with tumours of this sort, unless the surgeon is prepared with all the appliances and assistance which he will require in order to undertake the formidable operation which may become necessary. 4. It shows how probable gangrene is in such cases, in spite of the evacuation of the contents of the tumour, and although only a small part of the artery may have been included between the ligatures. 5. It is an interesting example of the fact, so often noticed in gangrene occurring after ligature of a main trunk, that the visible destruction of skin and superficial parts does not always give a just idea of the extent to which the deep parts may be implicated, if not in absolute gangrene, at least in a low unhealthy degeneration; and therefore how much better it is in such cases to amputate through or near the level of the highest ligature.—*Brit. Med. Journ.*, Jan. 10, 1880.

[1] Series vi. No. 112, in the hospital museum.

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MONTHLY ABSTRACT.

Anatomy and Physiology.

Coagulation of the Blood.

Amongst the many researches that have been made in regard to the phenomena presented during the coagulation of the blood, comparatively few have been devoted to the precise determination of the time at which it occurs after removal from the vessels. Thackrah, in his well-known work, estimates it at from five to ten minutes for the horse, two to ten minutes for the ox, one minute to one minute and a half for the sheep, half a minute to one minute for the bird, one minute to three minutes for the fish, and two to four minutes for the frog. Nasse found the order of rapidity of coagulation in domestic animals to be the horse, goat, dog, ox, pig, sheep, and rabbit; but K. SCHOENLEIN has recently shown, in an article contained in the *Zeitschrift für Biologie*, that many circumstances render these statements unreliable. No distinction was drawn between the first appearance of coagulation and the solidification of the entire mass. No control experiments were made with other and similar quantities of the blood, and many precautions were neglected which experience has shown are requisite that the time of the coagulation should be rightly estimated. He has himself adopted a plan originally suggested by Vierordt, which consists in pricking the finger, and dipping into the drop of blood which escapes a capillary glass tube with thin walls, having a diameter of about one millimetre and a length of about half an inch. Into the other end of the tube, which is open at both ends, is inserted a white horsehair, thoroughly purified and cleansed by boiling in alcohol and ether. At first it will be found that on withdrawing the hair for a short distance no blood adheres to it, but as soon as coagulation has commenced small red coagulated portions of blood adhere to it, and can be removed with it from the tube. The coagula are very often thicker than the lumen of the tube, and thus show that they adhere very firmly to the hair—much more firmly, indeed, than to a glass tube. A small quantity of uncoagulated blood usually remains in the tube, which, even if it be churned with the hair, refuses to solidify. In some salamanders and tritons the process of coagulation takes place with so much energy that serum is almost immediately squeezed out of the newly formed clot. In most of the lower animals Schoenlein snipped a small piece of skin from the back after the hair had been removed by shaving; but in frogs the heart was excised and the blood obtained from it; and in fishes the gills were used as the source of supply; whilst in birds a feather was pulled out. By practice he was able to obtain the blood in the glass tube with the horsehair inserted in the course of from ten to fifteen seconds, and the time was always taken from the moment when the blood escaped from the bloodvessels.

The valuable part of Schoenlein's paper is a series of tables in which he notes the name of the animal from which the blood was taken, its sex, and weight, the temperature of the air at the time of the observation, and approximative numbers in seconds of the time of commencement and termination of the act of coagulation. We extract some of the results at which he has arrived. In the barbel (Barbus fluviatilis) in one instance coagulation began in the blood in 185 seconds after it had escaped, and was completed at the expiration of 205 seconds,

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the whole period occupied being twenty seconds. In other instances the time of commencement was 125 and 95 seconds, and the duration of the act was 20 and 50 seconds. In the Triton cristatus the commencement of coagulation varied from 55 to 265 seconds after withdrawal, but in the former case it was completed in 20 seconds, and in the latter in 30 seconds. One of the slowest kinds of blood to coagulate was that of the Anguis fragilis, or blind worm, which did not begin to coagulate till after the lapse of 585 seconds, or nearly ten minutes, but even this was exceeded by a specimen from the Coluber natrix, or ordinary snake, which began to coagulate only after 1295 seconds, or more than twenty minutes, and was 410 seconds in becoming solid. This animal was, however, pregnant. A long list of birds is given, including the sparrow, starling, crow, woodpecker, pigeon, crane, swan, and others. In these the period of commencement of coagulation varied considerably, even for the same species—namely, from 75 to 495 seconds; in a large number the coagulation was completed in from 50 to 90 seconds, but in a few it lasted two minutes or more. In the mouse and rat the beginning varied from 85 to 245 seconds, and it was completed in from 50 to 180 seconds. Guinea-pigs presented similar variations. Ox blood varied from 37 to 555 seconds in beginning to coagulate, and from 90 to 210 seconds in completing coagulation. In man the commencement of coagulation varied from 145 seconds after withdrawal from the vessels, to 515 seconds, and the completion occurred at times varying from 3 to 10½ minutes. It will thus be seen that very remarkable differences are observable in the time of coagulation of the blood in different animals, the limits of variation differing frequently 10 to 20 per cent., for the commencement of coagulation, as well as for its termination, and in some instances very much more.—*Lancet*, Feb. 21, 1880.

Materia Medica and Therapeutics.

The Materia Medica of Antiseptic Surgery.

In an interesting lecture published in the *American Practitioner* (March, 1880), Dr. JOHN CHIENE, Surgeon to the Edinburg Royal Infirmary, gives the following description of the armamentarium used by Mr. Lister in his practice of antiseptic surgery.

The best form of carbolic acid to employ is the absolute phenol of Messrs. Bowdler and Bickerdike Church, Lancashire. Its advantages are that it has no objectionable odour, is readily soluble, and does not irritate the operator's skin; while the more crude and impure forms met with are occasionally so disagreeable and harsh that some of the German surgeons anoint their hands with vaseline before beginning work, in order to obviate this inconvenience.

Among the various preparations of carbolic acid we may first take up the solutions. There are two watery solutions—strong and weak. The strong consists of one part of acid crystals in twenty parts of water. It is used for washing and purifying the skin and instruments; for soaking sponges, drainage-tubes, and horse-hair; and for the steam spray. The weak, which is half the strength of the strong—one part of the crystals in forty parts of water—is required for washing the sponges during an operation, for soaking the "deep dressing," and for dressing generally. These lotions should be filtered after making, and had better be kept in large, blue, glass-stoppered jars carefully labeled.

An alcoholic solution of the strength of one part of the acid in five of spirit of wine is employed for cleansing wounds seen a few hours after injury, and specially

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for those cases in which dirt and foreign matter have obtained access to the tissues.

There are two oily solutions. The weak—one part of crystals in twenty of olive oil—is used for purifying and lubricating urethral bougies, sounds, and catheters immediately previous to their introduction; the strong—of one part in ten—for applying to exposed dead bone, in situations where we cannot at once remove it, but have to leave it for some time *in situ;* for example, in necrosis of the flat bones of the skull-cap. In such cases a piece of lint soaked in the oil is laid on the bare bone and covered with a piece of gutta-percha tissue.

Antiseptic gauze is prepared by charging unbleached muslin of open texture with the following mixture (New Formula, 1879): crystallized carbolic acid, one part; common resin, four parts; solid paraffin, four parts. This last prevents adhesiveness. Paraffin does not blend at all with carbolic acid in the cold, and therefore simply dilutes the moisture of carbolic acid and resin, without interfering in the least with the tenacity with which the resin holds the acid. The acid is only given off in sufficient quantity when the gauze is moist and at the temperature of the human body.

To charge the gauze the paraffin and resin are first melted together in a water bath, after which the acid is added, and all are stirred together. We have now to diffuse this equably through the cotton cloth; and this requires, first, that the cotton be at a higher temperature than the melting-point of the mixture; and secondly, that it be subjected to pressure after receiving it. The gauze is therefore heated in a trough, and as layer after layer is turned over the hot mixture is squirted on by means of a large metal syringe furnished with a series of perforations at the end. Finally, a large heated block is allowed to descend, which accurately fills the trough and subjects its contents to pressure. The quantity of fluid mixture employed should be somewhat less in weight than the amount of gauze.

The prepared gauze is used for the large superficial dressing; in loose pieces for padding and dressing irregular surfaces; for bandages; and also when wet, wrung out of one-to-forty aqueous solution, for the "deep dressing."

Mackintosh consists of thin cotton cloth having a layer of india-rubber waterproofing on one side. This should be evenly applied and continuous, so that the material is quite impervious. There must be no pin-holes in it.

Protective is made of oiled silk, coated on both sides with a thin layer of copal varnish, which renders the silk impervious to the carbolic lotion. Over this again a fine layer of carbolized dextrin is laid, which allows the one-to-forty lotion, into which the protective is dipped immediately before use, to wet, and so thoroughly purify the surface. The protective is neither aseptic nor yet antiseptic; hence the necessity of making it so before application. Its action is thus purely negative. It keeps the edges of the wound clean, moist, and free from the irritating action of the antiseptic employed, which, owing to the copal varnish, cannot penetrate to the wound; allows discharge to escape readily from under it into the dressing; does not adhere, and so is easily removed when necessary.

Carbolized catgut is thus prepared: To twenty parts of carbolic acid crystals add two parts of water, and to this again add one hundred parts of olive oil. Place this mixture in a flask, and in this put several skeins of catgut. These should be kept, by means of a few glass marbles or rods, above the level of the watery deposit which occurs. Seal the flask hermetically and set them aside in a cool place. The gut must not be used until five or six months after this, and the longer it has been prepared the better.

Carbolized silk is prepared by immersing a reel of silk in melted beeswax con-

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taining about one-tenth part of carbolic acid. The silk is drawn through a dry cloth as it leaves the hot fluid, to remove the superfluous wax.

All these various requisites should be kept by themselves apart from all other dressings—the gauze in a tin box; the silk in a stoppered glass jar; sponges, drainage-tubes, and horse-hair in wide-mouthed jars of one-to-twenty lotion; and the gut in its oil.

The various forms of steam sprays employed are constructed on the principle of Adams's steam inhaler. The boiler should be strong, dome-shaped, and furnished with a safety-valve. It is filled by an aperture situated at the lower level of the dome, so that in filling this space is left clear for steam alone. It is a disadvantage whon the boiler is filled at the very summit; and in hospitals sufficient care is often not exercised, the steam dome is encroached upon, and a jet of boiling water is thus thrown out in place of spray. The steam-pipe, provided with a stop-cock and ball joint, passes forward from the top of the dome and ends in a fine point, through which the steam rushes with great force. United to the under surface of the steam point, at an angle of forty-two degrees, we have the carbolic point continuous with the upper extremity of the India-rubber tube which leads up from the reservoir of one-to-twenty lotion. As the steam rushes out over the carbolic point it creates a vacuum, and the lotion thus sucked up is driven off in a fine cloud of vapour which covers an area large enough for any ordinary operation, and which is quite respirable, not wetting, and effective at a distance of at least four feet.

On arriving at a patient's house we fill the spray with boiling water up to the base of the dome; never above this; and so we avoid the danger, as I have remarked, of having the upper point blocked by particles of dust carried along in the jet of water, which would ensue were the boiler overfilled. We light the lamp, noting that the wick is in good order and that there is a sufficiency of spirit. We judge that steam is up if it escapes with great force and if it has a distinctly blue colour, when we shut off all carbolic acid, which may readily be done by compressing the carbolic tube with the fingers, and so seeing steam alone. One has also the peculiar rushing sound, the smell and taste of the spray to guide him in ascertaining if all is in working order. A small filter formed of a piece of sponge, inserted into the lower extremity of the carbolic tube, and secured in position by means of a gauze cap, will prevent the lower point from getting choked with dirt, which, falling into the open jar of acid, may be sucked up, and so cause trouble. Should the spray cease working, we may unscrew the points and affix the reserve pair found in the hollow handle, the wound being meanwhile protected by a "guard" consisting of a rag or piece of gauze soaked in lotion. In this way operative procedure is not hindered, and the defaulting points may be seen to and cleaned out with a horsehair or fine silver wire at a more fitting time. This is an accident which hardly ever occurs in private practice.

The other antiseptics employed are—

A solution of chloride of zinc (forty grains to the ounce of distilled water), introduced by the late Campbell de Morgan. It is chiefly used to brush over the cut lips of incisions and wounds in regions which we cannot hope to keep aseptic, as in excision of the upper jaw or lateral lithotomy. We may leave our dressing of strips of lint soaked in this solution *in situ* for forty-eight hours, so potent is this salt; and in this way, thanks to its searching character and non-volatility, the pain and unrest of dressing is avoided, and a dangerous period, during which blood-poisoning from absorption might take place, is tided over. Considerable smarting and pain ensue after application, and this continues for a varying period, according to the temperament of the patient. The use of chloride of zinc for purifying ulcers will be referred to shortly.

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Boracic or rather boric acid is used as lotion, lint, and ointment. It is non-volatile, very unirritating—in fact the least so of all antiseptics—but is not at all searching. It may prevent, it can hardly eradicate putrefaction. The lotion of one part of the crystals in thirty parts of water is coloured red with litmus, and thus at a glance we may distinguish it from other lotions. It is used for moistening the boric lint and for washing sores.

The lint is prepared by soaking ordinary surgeon's lint in a boiling saturated solution of boric acid, coloured red with litmus. It is allowed to cool, the lint is hung up to dry, and the remaining fluid poured off and used as boric lotion. The lint is of a pink hue, and glitters with the soft, flat micaceous crystals. In a similar manner we may charge bibulous paper or the paper lint introduced by Messrs. Wyeth, of Philadelphia. We moisten the boric lint with boric lotion before application, and this for the same reason as we also soak the deep dressing of gauze or the protective in carbolic lotion. The surface of the material may be covered with germs of all kinds, because the antiseptic is not acting. We destroy these organisms by our active lotion, and as the aseptic discharge finds its way afterward into the dressing it dissolves and sets free quite enough of the stored up agent to render itself also antiseptic.

Boric ointment may be prepared by rubbing up one part of finely levigated boric acid in five parts of vaseline. It acts as a sort of antiseptic protective, and is specially useful in the treatment of wounds in the face, where it allows the discharge to escape, keeps the wound sweet, and never adheres.

An emulsion of salicylic acid in one-to-forty carbolic lotion was introduced by Mr. Lister for the purpose of checking the chemical changes which may take place under dressings which have been left unchanged for some time. These changes, due to a chemical action between the gauze and the discharges under it, the sweat, etc., give rise sometimes to a troublesome irritation and eruption, formerly dubbed *eczema carbolicum*. A very little salicylic cream smeared on the surface of the protective or deep dressing effectually disposes of this.

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Iodide of Potassium and Calomel in Ocular Therapeutics.

Dr. W. SCHLÆFKE directs attention (*Arch. f. Ophthal.*, xxv. 2) to the danger of dusting the eye with colomel while the patient is taking iodide of potassium internally. He shows (1) that the latter drug enters the circulation and penetrates to every part of the system with great rapidity; its presence in the various secretions, more particularly in the tears, may be demonstrated in a few minutes after administration. (2) That when iodide of potassium is being taken, even if only to the extent of seven or eight grains twice daily, it is constantly present in the tears in demonstrable quantity. (3) That calomel, though only very sparingly soluble in water, dissolves ten times more freely in a ¾ per cent. solution of common salt. (4) That calomel, when dusted on the conjunctiva, is dissolved to some extent, and unchanged, in the lachrymal secretion, and then acts as a chemical agent. (5) That when calomel comes into contact with tears containing iodide of potassium in solution, iodate and iodide of mercury are formed. (6) That both of these substances are soluble in the presence of iodide of potassium or common salt, and that when so dissolved they have a powerful caustic effect on the conjunctiva and excite violent inflammation therein. (7) That for the foregoing reasons the external use of calomel should be avoided so long as the tears show traces of the presence of iodide of potassium.—*Glasgow Med. Jour.*, March 1880, from *Centralblatt f. d. Med. Wiss.*, Jan. 21, 1880.

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Pyrogallic Acid as a Remedy in Skin Diseases.

During the year 1879 experiments have been made at Vienna, Paris, Breslau, and elsewhere with ointments containing pyrogallic acid instead of chrysophanic acid, and with good results. Psoriasis is the disease in which it has been chiefly used, and the most convenient strength has been found to be that of one in ten. Most of those who have tried it—for instance, Professor HEBRA (*Wiener Med. Presse*, Nos. 43, 44, 1879) and Professors BESNIER and VIDAL of the St. Louis Hospital (*France Médical*, March 12 and July 5, 1879)—prefer the remedy to chrysophanic acid. They find that, though its action is slower, it has the advantage over the latter in exciting scarcely any inflammation in the part to which it is applied, and in staining it but slightly, the brown colour produced by it quickly disappearing. Its price is also said to be less than that of chrysophanic acid. Hebra finds that a patch of psoriasis treated with pyrogallic acid ointment takes from one to three weeks to disappear. He has used it also in tinea tonsurans, in lupus vulgaris, and in syphilitic papular eruptions. The lupus nodules are destroyed in about three days, probably, as we shall see directly, owing to the affinity of the acid for oxygen.

Hebra has never yet seen any poisonous symptoms follow its application to the skin, although in his cases it could always be detected in the urine. A case has, however, been lately reported by Dr. A. NEISSER (in the first number of Leyden and Frerichs' *Zeitschrift für Klinische Medicin*), where a patient died from pyrogallic acid poisoning in the skin clinic at Breslau. He was a robust man suffering from psoriasis of the whole body, and was certainly not experimented on with much caution. One half of his body was painted with chrysophanic acid, the other with 10 per cent. pyrogallic acid ointment. Six hours after, he had a severe rigor attended with vomiting and collapse. The symptoms then subsided, but returned in about forty hours, and from that time he never rallied, but became comatose and died on the fourth day after the painting. The peculiarity of his urine, of which he only passed about one litre and a half during his illness, attracted attention. It was dark brown, and deposited a thick sediment, which consisted of a very abundant blackish-brown substance, partly amorphous, and partly in the form of drops or casts, but it contained no blood-cells. The spectrum showed the characteristic bands of hæmoglobin, and similar *débris* to that in the urine was found in the blood itself and in the renal tubules. There could be no doubt, in fact, that it consisted of disintegrated red corpuscles.

Dr. Neisser now experimented on rabbits both with chrysophanic acid and pyrogallic acid, and, after proving the harmlessness of the former, discovered that the latter, in moderately poisonous doses, causes rigors, dyspnœa, tremor of the limbs, general weakness, and hæmoglobinuria, with the same changes in blood and urine as were found in his patient. The animals may recover if the dose is not excessive, but with a large dose they die with all the above-named symptoms plus the alterations of the blood corpuscles, but there is no hæmoglobinuria. With a very large dose (two grammes of acid per kilogramme of body weight), to which they generally succumb in about two hours, there is neither hæmoglobinuria, nor can disintegrated blood-cells be detected in the blood; the latter, however, is either blackish or chocolate-coloured, and sometimes of the consistence of jelly.

Dr. Neisser explains the poisonous action of the acid on man and animals by its avidity for oxygen in the presence of alkalies, and the consequent destruction of the red blood corpuscles, which are the carriers of oxygen. The hæmoglobin thus set free is dissolved in the plasma of the blood, and the corpuscular *débris* remains suspended in it, and is in part excreted by the kidneys. He considers that the infarction of the latter does not directly cause death by retention of the

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urinary constituents in the blood, but by delaying the excretion of the pyrogallic acid from the system, and so prolonging the period of its deoxidizing action. It seems to us, however, that where death follows maximal doses it must be directly due to so large a destruction of red corpuscles that those which still remain intact are unable to satisfy the need of the organism for oxygen, and there is not even time for the appearance of hæmoglobinuria. Dr. Neisser considers that the external use of pyrogallic acid should be restricted to the head and face, chrysophanic acid being still retained for the skin of the trunk and limbs. Theoretically, transfusion with simultaneous venesection would be the rational treatment of the poisoning, and active measures should be taken as early as possible to promote diuresis, and clear the renal tubules of *débris*. After all, however, the number of individuals liable to be poisoned by pyrogallic acid may be limited, just as the number of those who die from chloroform is; but there is no doubt it is a drug which cannot be safely played with.—*Med. Times and Gazette*, Jan. 31, 1880.

Medicine.

Cases of Rheumatic Fever treated with Salicylate of Soda, and terminating Fatally.

Dr. GOODHART, at a recent meeting of the Clinical Society of London, read notes of a case of acute rheumatism treated by salicylic acid, and terminating fatally. The patient was a servant girl, aged seventeen, with a history of gout and rheumatism on the father's side; but she had always been healthy, except that she suffered from nasal polypi, and had been three times operated on for that affection, the last time fourteen days before her fatal illness. She had had scarlatina long ago. After the last operation for the removal of the nasal polypus, she felt faint and weak, but continued at work for a week, when one morning she complained of pain and stiffness of joints, and had headache, anorexia, but no rigor or vomiting. She was treated for rheumatic fever and got better, but relapsed in two days and came to the hospital. She was a dark-complexioned girl with flushed face and bright eyes; tongue was red at edges, with a white fur on the dorsum, and rather dry. The ankles, knees, wrists, and elbows were much swollen, the skin pinkish. The phalangeal joints were also swollen. Precordial dulness increased; apex beat normal; pericardial subsultus at base; temperature 103°; pulse 120. Bicarbonate of potash was administered in half-drachm doses, in acetate of ammonia, every three hours; with five grains of Dover's powder night and morning; and milk diet. Next day the area of precordial dulness reached to second intercostal space, across from sternum to nipple, and downwards to the sixth cartilage. The impulse was in its normal position; the action regular; the sounds very distant and thick at the base, but there was no bruit. The lungs were normal; urine of specific gravity 1021, not albuminous. She appeared to have a good deal of precordial distress; was sweating freely; and the joints were still painful. The temperature had gradually fallen from 103° to 100°. The alkaline mixture was continued, but at 6 P. M., as she still seemed in much pain and the temperature was rising again, though very slightly (100.4°), she was ordered fifteen grains of salicylic acid every three hours in its place. She was seen by Dr. Goodhart at 9 P. M., and though still in a good deal of pain and restless, the pulse was still at 120, and there were no particularly serious symptoms. But after this the pulse became much accelerated, reaching 160, and the patient died quietly and suddenly at 3.45 A. M. She had

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taken four doses of salicylic acid, sixty grains in all, the last dose three-quarters of an hour before death. She passed a restless moaning night, but did not seem unusually ill, nor was anything unusual noticed till her death.

On inspection, the heart weighed nine ounces and a half; there was much ecchymosis of the pericardium, and patches of recent lymph in several places, but no fluid. The muscular tissue of the ventricle showed one or two points of fatty degeneration, but was otherwise healthy, and the ventricle was not dilated. The valves were practically healthy, beyond a grain or two of lymph on the mitral. The right ventricle was distended by clots of post-mortem formation continuous with similar clots in the pulmonary artery. The small intestine was much ecchymosed and congested, and the joints all contained abundant yellow synovia with coagula of yellow lymph, especially the knees and hips. All the bones were normal, special search being directed to the sphenoidal, ethmoidal, and frontal sinuses in the region of the recent operation.

The first appearance of the patient, her dry skin, and her restlessness argued badly for her recovery, and suggested the possible event of hyperpyrexia, but as the temperature progressively fell, and rheumatic sweating became established, these apprehensions subsided, and the case assumed the characters of an ordinary attack of acute rheumatism of by no means severe type. Sudden death was therefore an unexpected event, and the question was, Is the result to be attributed in any degree to the salicylic acid treatment? Dr. Goodhart thought this possible, but did not wish to press that opinion unduly, in the face of facts which rendered the question a very open one. 1. An early pericarditis was present, and this with the fatty change, though slight, might have sufficed to determine the cessation of the heart's function. 2. It might be suggested as possible that, in the four hours' interval between being seen by any skilled assistant and her death, the temperature might have risen rapidly and death occurred from hyperpyrexia. 3. The clot in the pulmonary artery might have been embolic. But as to the first view, the change in the heart-wall, and especially the absence of dilatation, did not seem sufficient to explain sudden death; as to the second, the température chart was one of almost progressive fall; and, thirdly, the character of the clot and its continuity with that in the ventricle justified the rejection of any hypothesis of pulmonary embolism.

Dr. Goodhart then discussed the possibility of death being due to the rheumatic *materies morbi*, or to the sixty grains of salicylic acid, which had been administered. Acute rheumatism was a very treacherous disease, especially in young adults; but before the introduction of the salicylic treatment his post-mortem experience led him to the conclusion that death was associated in some cases with hyperpyrexia, without obvious tissue change; in others with pleuro-pneumonia, pulmonary œdema, and *severe* cardiac complications; occasionally, and comparatively rarely, with acute dilatation of the heart. Since the introduction of salicylic acid, he had seen three cases where death was sudden, unexpected by the physician in charge, and in which the inspection did not discover any changes in the viscera sufficient to cause death. Was it a coincidence that these cases had occurred since? All the three were girls or young women, and in all it was a first attack. Coming, as this case did, the last of the three, determined him to bring it forward, as one, possibly, in which salicylic acid had acted prejudicially in a manner and with a rapidity hitherto unrecognized. This was the more necessary because the mode of death had no special symptoms attaching to it which pointed decidedly to the drug as a harmful agent; and under similar circumstances, supposing that death was caused by the drug, it is quite possible that the ill result might be attributed wrongly to other causes. Death in such cases must, if ascribed to salicylic acid, be attributed to sudden collapse and failure of

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the heart's action, symptoms known to be produced by salicylic acid, and some such cases of sudden collapse have already been observed and recorded by others, though perhaps rather in association with a more sudden fall of temperature. Such cases have led to the recommendation of caution in the size of the dose of the drug in cases where there should be any sign of a failing heart, or towards the end of an attack. But in the case under consideration there was no such indication for caution. Moreover, caution was never overstepped; so that the result, if it be a result, could only be averted, if at all, by commencing with a very small dose and gradually increasing it. Dr. Goodhart thought that, in dealing with a drug which so quickly and so completely saturates the system, which, in some cases, and one could hardly foretell when, produces severe nervous symptoms, in others sudden collapse, this is always the wiser plan to adopt, and in many cases the smaller doses seemed to him to be all that are required for the relief of pain.

Dr. BUZZARD then read notes of a case characterized by symptoms of acute rheumatism, which terminated fatally on the tenth day. The patient was a previously healthy lady, aged forty-two, who got a chill coming out of the opera on July 26th, and four days afterwards was taken with shivering, "queerness" in her head, noises in her ears, and sleeplessness. When seen by Dr. Buzzard on Aug. 3d, in consultation with her own medical attendant, Mr. Airey, she lay in bed complaining of these symptoms—of deafness in the right ear and imperfect hearing in the left, with constant nausea and aversion from food. The pulse had been at times as low as 56, and there was much prostration. The temperature was normal, there was no paralysis, diplopia, or change in the fundus oculi; the heart-sounds and breathing were normal. She had never had otorrhœa, and the deafness had only been coincident with her illness. Restorative food and remedies were prescribed. On Aug. 5th a great change had taken place. The temperature was 103° F.; pulse 106; face flushed; left knee-joint swollen, very painful and powerless. There had been much sweating. Urine acid. Heart-sounds normal. She was ordered fifteen grains of salicylate of soda every three hours. On Aug. 7th, Dr. Buzzard found the temperature 99°, the pulse 108, the respiration 38, the heart-sounds normal; the state of the lungs behind could not be ascertained. The swelling of the left knee was considerably reduced, but the right knee was now greatly swollen and painful, and also one of the finger-joints. Careful inquiry and examination failed to discover any wound or sore. There was great prostration. Brandy in frequent doses was prescribed, and the salicylate ordered to be given at longer intervals. The patient sank next day. Dr. Buzzard remarked that he saw the patient upon three occasions. On the first the symptoms were entirely cerebral in character; on the second, although they pointed strongly in the direction of acute rheumatism, yet he could not help a strong feeling that the case was one of pyæmia, the cause of which, however, could not be ascertained. No doubt pyæmia did occasionally occur without any discoverable wound; he had known it happen in connection with a simple fracture, and in another case from an ulcer of intestine, found after death. In the present case all efforts to procure an autopsy were fruitless. He had not the slightest belief that the salicylate had been of injurious influence, as the patient's condition from the first was exceedingly grave. Not more than twelve doses were taken.

Dr. BRISTOWE called to mind two cases of sudden death in acute rheumatism. One was a case of a previously healthy young woman, who died in syncope, without any explanation; and post-mortem examination showed nothing beyond the articular inflammation. This was long before salicylic acid came into vogue. The other case occurred two or three years ago, and was also not treated by this drug. The subject was a young woman, with no very marked symptoms, freely

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sweating, a high but not excessive temperature. She died suddenly at the end of a few days. There was a trace of pericarditis found, and also some partial fatty degeneration of the myocardium, which did not, however, show any obvious inflammatory change. The case related by Dr. Buzzard was probably one of pyæmia. Quite recently, at St. Thomas's Hospital, he (Dr. Bristowe) saw a girl thought to be suffering from acute rheumatism, with a hot skin; but she had had rigors; complained of pain in the course of the humerus. She was transferred to the care of a surgical colleague, who, suspecting some acute necrosis, excised the shoulder-joint, when his surmise was found to be correct. The case ended fatally, and, after death, pus was also found in the elbow-joint. There was suppurative (pyæmic) pericarditis, and the lungs were studded with infarcts.

Mr. H. LEE could not admit that either of the cases read were acute rheumatism. Surgeons were well acquainted with instances of septic poisoning simulating this disease, and following even the slightest injuries. Some of these cases presented an eruption on the skin like scarlet fever. In Dr. Goodhart's case the febrile attack ensued upon the removal of a polypus, and the post-mortem evidence favoured the view of the septic nature of the disease in the material alteration found to exist in the blood and the ecchymoses under the pericardium.

Dr. GREEN could not feel sure that the cause of death in Dr. Goodhart's case might not have been due to changes in the muscular tissue. One or two patches of fatty degeneration were found, and the contracted condition of the ventricle could well be explained if rigor mortis had not passed off; for there is no doubt that rigor mortis might exist in very degenerate hearts, so that an organ greatly diseased would yet appear fairly well contracted The sudden death pointed strongly to its cause being due to changes in the muscular wall.

Dr. GLOVER did not think the case had much bearing upon the question of the toxic effect of salicylic acid, and it would not be right to draw any unfavourable inference upon this drug from an isolated case. He thought Dr. Bristowe's suggestion as to Dr. Buzzard's case to be probably the correct one.

Dr. MACLAGAN said there was no question as to Dr. Goodhart's case being one of acute rheumatism, and he thought with Dr. Green that it would be well if more information had been afforded as to the state of the heart. As to the whole subject of the share taken in the ill result by salicylic acid, it must be remembered that it was now given very largely in many febrile and non-febrile diseases, but yet disastrous results were only recorded in connection with acute rheumatism. Dr. Bristowe's remarks pointed to the fact that, quite apart from salicylic acid, the rheumatic poison alone would in some cases lead to sudden death. Myocarditis, too, was a more frequent complication of acute rheumatism than was generally thought. There was no doubt that inflammation extended from the pericardium to the muscular substance; but such extension could not take place in endocarditis, which is always limited to the valves; and he thought that the inflammation might primarily involve the fibrous structures of the heart, as those of other parts in acute rheumatism. Thus it might extend from the fibrous rings at the orifices to the muscular substance. Senator's views as to the conversion of salicin into salicylic acid in the blood involved an error. Dr. Maclagan mentioned a case where the pulse increased in rapidity, and became weak under salicylate of soda, but improved when salicin was substituted for this.

Dr. MAHOMED had seen Dr. Goodhart's case, which was undoubtedly one of acute rheumatism. He had been struck with the frequency with which the first sound of the heart failed, and even disappeared, during convalescence after a prolonged course of salicylate of soda in acute rheumatism. He was much struck by this in a case of typhoid fever, where the salicylate was given; the pulse-rate rose from 120 to 160 within thirty-six hours, and so feeble was it that death

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seemed impending. The drug was discontinued forthwith, and in twenty-four hours the pulse fell to 120, and the case subsequently improved. He had not the least doubt that, had the patient had one more dose of the salicylate, he would have died. He added that he had never observed so marked a degree of failure of the first cardiac sound in fever, as in these cases treated by the salicylate.

Dr. BARLOW asked if the tympanic membrane had been examined in Dr. Buzzard's case. The first symptoms were shivering and pain in the ears, and he suggested that possibly the case was one of suppurative internal otitis (without rupture of the membrane) giving rise to pyæmia. The fact that the effusion passed away from one joint and appeared in another did not tell against pyæmia; for he had seen this occur in two or three cases.

Dr. DOWSE had prescribed salicylate of soda largely, not only in rheumatism, but in other painful affections—*e. g.*, the pains of ataxy—always with relief to pain, but sometimes with alarming symptoms of depression. But he had found that salicylic acid alone (which was quite as valuable in painful affections) did not have such depressing effects. He doubted if Dr. Goodhart's case was one of rheumatic fever; and he referred to a case with high temperature and profuse sweating (not of an acid character), which, at first thought to be acute rheumatism, turned out to be due to phlebitis.

Dr. Goodhart, in reply, said there was no question at all that his case *was* acute rheumatism. The fact of the patient having had a nasal polypus removed so shortly before the fever set in made him search carefully for any evidence of blood-poisoning, and he still admitted the remote possibility of its being of such a nature. But he submitted that it was just these obscure cases of septic poisoning that came under the cognizance of physicians rather than of surgeons, as Mr. Lee had said. In reply to Dr. Green, he said that the muscular substance of the heart was carefully examined microscopically, but only with the result he had stated. Still, the heart might fail and its muscular structure not be diseased. He had looked through the literature of the subject as to the distinction between salicin, salicylic acid, and salicylate of soda, and confessed that it threw no light upon the matter. He agreed that, until cases of this kind were brought forward and discussed, it would be impossible to draw conclusions as to the part played by salicylic acid in the fatal result.

Dr. Buzzard, in reply, said that he was careful not to describe his case as one of rheumatic fever; but at the same time careful examination had failed to reveal any source of pyæmia. Against Dr. Barlow's view was the fact that the deafness was at first complete in one ear, and then the other ear became slightly deaf. The case showed rather cerebral exhaustion than acute inflammation. He did not attribute the fatal issue in the least degree to the salicylate of soda.—*Lancet*, Jan. 17, 1880.

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The Cause of Intermittent Fevers and the Nature of Malaria.

Professor KLEBS, having gone to Rome last spring with the intention of investigating the cause of malarial fevers, with the assistance of a Professor of the Roman University, Dr. TOMMASI-CRUDELI, he was soon able, thanks to the kindness of several Roman land-proprietors, to obtain the necessary material for those researches, from the soil and air of the infected districts, partly of Rome itself, partly of its environs, so ill-famed for fevers—that is, from the Roman Campagna and the Pontine Marshes.

From the introduction to their pamphlet we see that the two investigators followed a very deliberate plan in the performance of their task. First, they furnish us with a very able description of the mode of propagation of the malarial

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fevers. This naturally forms the basis of their investigations into the cause of the disease, the ideas about which have been so vague as to induce constant changes in the theories of its origin. A fresh theory takes the place of the previous one when recent facts and experience concerning the outbreak of the disease become known. If it be true that marshy districts are the favourite seats of intermittent fevers, it is not the less true that there are no fresh cases to be observed so long as a sufficiently high level of water separates the soil from the air. Further, it is no longer possible to consider malaria simply as a marsh miasm; for it is not found in every marshy district, whilst, on the contrary, it shows its existence in districts absolutely free from marshy ground—even where the soil has never been constantly wet. It is also impossible to state a distinct connection between the chemical and geological structure of the soil and the manifestation of malaria. Again, the accumulation of decaying organic material in large quantities is not sufficient alone to explain an outbreak of intermittent fever. All these conditions, which, it is true, have their part in the manifestation of the miasm, are to be considered only as adjuvant causes. It has been established beyond doubt, that in malarial districts three distinct factors are necessary for the production of intermittent fevers—(1) high temperature of the air; (2) constant moisture of the soil; and (3) free access of air to the moist layers of the ground. Several pathologists have been induced by such facts to deny altogether a specific cause of malaria. They numbered this disease amongst those caused by cold, because, according to all experience, the last-named condition takes a great part in the outbreak of the disease; but they completely forgot that in countries free from malaria, cold alone never causes intermittent fevers, and that, on the other hand, the malarial poison causes those fevers without any previous cold. Others formed the idea that malaria might find its origin in a parasitic organism, whose development must necessarily depend not only on favourable external conditions, but on the existence of a specific germ. Beyond the analogy of intermittent fever with other infectious diseases undoubtedly of parasitic origin, such as relapsing fever and splenic fever, one circumstance goes far to corroborate the parasitic theory—namely, the fact that malaria undergoes a very rapid increase, when the known favourable conditions for its development are no longer restrained by culture of the soil. Italy furnishes numerous illustrations of this point, because the malarial places have nowhere else been known with such exactitude from ancient down to recent dates; and because the difference between ancient and modern times as regards the prevalence of these diseases is far too great to be attributed simply to chemical and physical changes in the soil. Such an enormous increase is much more easily explained by assuming that a parasitic organism might have spread to such a large extent because the obstacles to its development had ceased to exist. The fact that the malarial poison is limited chiefly to the layer of air situated immediately above the surface of the soil, points to a corpuscular nature of the poison, because such particles can spread farther only by motion of the air, whilst a hypothetical gas would find no difficulty in diffusing itself through the upper layers of the atmosphere—even if we have no regard to the fact that no such gas has ever been detected by chemical analysis.

During the last twenty years many efforts have been made to find a specific malarial fungus—with more or less success. Whilst a certain number of scientists charged some forms of algæ, found partly in the marshy water of malarial districts, partly in the marshy soil, with the production of malaria, but failed to give real proofs for their assertions, others endeavoured by experiments on animals to attain the solution of the problem. Griffini injected dogs and rabbits with dew collected from rice- and marshy fields, and produced by such injections elevations

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of the bodily temperature, but no distinct febrile attacks. Moreover, the spleen in those animals remained normal, and there was no augmentation of the organisms found in the dew to be observed in their blood. Similar injections made by Lanzi and Terrigi in the year 1870 gave no more distinct results, but in several of the animals which had perished after a smart attack of fever, the liver, the spleen, and also the blood of the portal vein, contained black pigment. Thus this method of investigation seemed not altogether quite unsuccessful. To establish a substantial theory of a parasitic origin of malarial diseases it is necessary to prove (1) the constant existence of a definite species of organism in the malaria-soil as well as in the air situated above such a soil; (2) that this same species of organisms is alone sufficient, without the concurrence of any other disease-generator, to produce true intermittent fever. To obtain the latter proof it is also indispensable to experiment on animals; and such an experiment would be the more conclusive, the better we should succeed in isolating an *active* organism from the marshy soil, and in introducing it in a suitable medium into the living animal. Further, it would be necessary to have the three following conditions realized, to enable us to recognize the disease produced in the animal by the introduction of the organisms as true intermittent fever—namely, (1) the existence of distinctly intermittent feverish attacks; (2) the enlargement of the spleen in the characteristic form—that is, a well-defined firmness of that organ, which is distinguishable from the enlargement of the soft septic spleen; and (3) the absence of a noteworthy diminution of the weight of the animal, at least during the first feverish attacks. Concerning the first-named condition, it is true that, in the graver forms of malarial infection in men, the fever often enough takes on a continued character, or has it from the beginning (*perniciosa*); so that in the animal also a continued fever would not perfectly exclude the existence of malarial infection. Another reason of some moment, tending to show that domestic animals generally are unfitted for experiments on malaria, seems to be their oft-observed immunity from intermittent fevers in malarial districts. Still, this is not absolutely proved; and the authors assume, on somewhat hypothetical grounds, that there might exist in the animals special protecting conditions against the infection with germs. But we shall soon see that the scruples in that direction have been unfounded. Lastly, we have to note another important kind of evidence for the malarial infection of animals; that is, the existence of the characteristic black pigment in the spleen, the liver, the marrow of the bones, and the blood—a pigment which contains iron in inorganic composition (recognizable by the blue colour after treatment with ferro-cyanide of potassium and hydrochloric acid—a reaction which is not to be obtained with hæmoglobin). From the existence of iron in that form it follows that during life, and in the interior of the otherwise unaltered blood-corpuscles, the hæmoglobin becomes decomposed and its iron set free by the influence of the malarial poison.

When the authors had been so far successful as to produce by injections of watery extracts from the marshy soil functional disorders and anatomical lesions in animals, which were completely in accordance with those following the natural infection with malaria, the task next to be undertaken was the isolation from the crude material of the active substance—that is, the true generator of the disease. If that germ belonged to a plant, it would be possible to isolate it from the accompanying organisms by cultivating it from the crude material in a medium suitable for its further development; for then the other organisms will gradually disappear. This method of fractional culture (*fractionirte Cultur*), applied successfully by Professor Klebs in other instances, gave the desired result in this case also. Lastly, it would be necessary to apply filtration for isolating the

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organisms absolutely. By injecting the liquid containing the organisms, and by comparing the results afforded by that injection with those following injection with the filtered liquid, it can be proved that the special organism alone is efficacious, whilst the second injection has no effect.

Besides those organisms which were taken from the marshy soil, the authors also cultivated germs in a special way, which they had collected from the air above the soil. At some places specially exposed to the malaria a large quantity of air taken from a very small distance above the ground was sucked through a ventilator of special construction, which permitted the collection of all corpuscular elements contained in the air on a comparatively small space—that is, on a small glass plate covered with a mixture of glycerine and isinglass. Examination with the microscope showed, amongst those particles of dust, rods in very small number and filiform elements of some length. When those elements were transmitted into fresh urine, free from germs, an abundant development of bacilli was shortly to be seen, which showed the same characters as those cultivated from the soil. It was possible, after repeating the breeding process several times in different mediums at a definite temperature, to obtain a development of schizomycetæ which showed constantly the same characteristics, whether the germs had been taken from the soil, the marshy water, or the air. These fungi appeared as small rods of 0.002 to 0.007 millimetres in length, growing into long twisted threads, which after some time became furnished with joints at the surface of the liquid exposed to the air, or formed the so-called enduring germs (*Dauersporen*) in their interior. Besides the characteristic form of the fungus, it is distinguished from other bacteria by its relations to the air. It is markedly aërobiotic. If air has no free access, or is excluded, it will not grow at all, or dies out. Inasmuch as the development of the fungi was so constant, it was probable that this organism was the true *bacilus malariæ*. The next problem that arose was to test its nature by injecting it into the living animal.

Before the experiments on the animals could be begun, it was necessary to determine exactly the dimensions of the spleen as well as the average normal temperature. This done, the experimenters were able to define more exactly the pathological conditions of the injected animals.

In the first group of experiments two rabbits were injected with organisms collected from the slime and the air of the Pontine Marshes. Every one of them showed intermittent fever after one injection. When they were killed they presented very marked enlargement of the spleen, which contained large masses of dark brown pigment. The spleen and the lymphatic glands contained very small, bright corpuscles, which developed, after twenty-four hours in a suitable medium, into threads filled with spores. Formation of pus or any other changes due to inflammatory or septic processes of the different organs were entirely absent.

In further experiments, cultivated bacilli taken from urine, or the isinglass mixture, furnished the material for the injections, and always with the same positive results. The soil, taken from different places in Rome itself and the Agro Romano, proved, in nearly every instance, efficacious also. But the injection with water standing over the marshy ground remained without effect.

Of course it was necessary also to try soil free from malaria. Professor Klebs took infusions of the soil of the garden in the pathological laboratory at Prague. The results remained in this case somewhat doubtful, because the animals became ill, but not in the same way as before, so that it seemed that a mere septic injection had taken place. Two rabbits became ill and died with symptoms of septic poisoning spontaneously at Rome, so that it was possible to compare the two processes directly; and the pathological conditions found in the dead bodies

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proved different in these latter cases, because pus was found, pigment was totally absent, and the spleen, although enlarged, had lost its firmness.

Afterwards Dr. Marchiafava at Rome was able to demonstrate spores and bacilli in the spleen, the marrow, and the blood of three persons who had died of pernicious fever, showing the same characters as those observed by Klebs and Tommasi-Crudeli.

In summarizing the results of their investigations, the authors consider the following facts as proved: (1) That it is possible to reproduce malarial infection in every form in rabbits in which it is known in men; (2) that the malaria produced artificially in animals is generated by organisms existing in the malarial soil at the time when the outbreak of the fever has not yet taken place. We see, therefore, that those experiments, although small in number, have led to very important results. It is to be hoped that they may become the starting-point for further investigations in the same direction. As the authors themselves allow, there are still many points which require further elucidation. But it is encouraging to see how, by a comparatively small number of careful experiments, good results can be arrived at, when a strictly logical and methodical course of investigation has been pursued. — *Med. Times and Gazette*, Jan. 17, 1880, from *Archiv für Experimentelle Pathologie und Pharm.*, Bd. xi.

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On the Pathology of the Central Nervous System.

O. KAHLER and A. PICK publish a series of contributions to the pathology and pathological anatomy of the central nervous system in the *Prager Vierteljahrschrift*, new series, 1879, pp. 1 and 2. The first is a contribution to the localization of functions in the brain. According to Wernicke, the central end of the auditory nerve and, with special reference to aphasia, the centre of formation of sounds, are to be placed in the first temporal convolution; and lesion of the same must be considered the fundamental cause of deafness for words (Kussmaul). The authors communicate the following case in evidence. A woman, 42 years of age, suffering from aphasia, who could utter but very few intelligible sounds, but who presented no signs of paralysis in the extremities, could hear, without understanding what was said to her. She had to be guided for the simplest offices by the nurse, as oral directions were unintelligible to her. On making a *post-mortem* examination, the convolution of the left temporal lobe appeared soft and gelatinous, as did the posterior half of the third frontal convolution. The right temporal lobe was also softened to a smaller extent. A second case was that of a drunkard, aged 37, who was paralyzed on the right side, aphasic, and deaf to words, though he heard plainly. A hemorrhagic pachymeningitis, chiefly on the left side, had compressed the whole brain, especially the middle and third frontal convolution, almost the whole temporal lobe, and the lateral portions of the parietal and occipital lobes. As to those cases recorded in which, in spite of affection of the temporal lobes being shown afterwards, no trace of word-deafness was observed, there was (according to the authors) in every case a sufficient lapse of time for the recovery of the possibly lost power of understanding words. In connection with this, the authors mention, with regard to the first case (in which during life no lesion of the nutrition or of the motor power of the extremities was shown), the actual presence of a myelitic focus in the spinal cord in the left anterior cornu of the lumbar region, by which, besides the local changes, asymmetry of the whole cord was produced. This shows the necessity of care in investigating such cases of asymmetry, and of not omitting to make a thorough search for the presence of some myelitic focus, however small, in the spinal cord.

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In the second section, an interesting case of word-deafness (*Wortaubheit*) is communicated; that of a man, aged 55, who was suffering from atactic aphasia, word-deafness, agraphia, partial ataxy, slight loss of power in the joints, and loss of musical memory.

The third section treats of the localization of motor-phenomena after hemiplegia. The authors observed in a man, aged 60, about six months after an apoplectic attack, which caused paralysis and complete anæsthesia of the right half of the body (including the sense-organ), purposeless movements of the finger and hand on the paralyzed right side. Later on, twitchings and violent swinging of the right arm and uncontrolled movements of the toes set in. These movements ceased during sleep, but the hand always assumed a peculiar position (super-extension and abduction of single fingers). At the posterior end of the left corpus striatum, an opening led into an apoplectic cyst as large as a farthing. The same was found in the external part of the optic thalamus, and it sent a prolongation outwards through the inner capsule. On vertical section through the middle of the thalamus, the apoplectic cicatrix was seen in the outer half of the thalamus, and extended as a reddish-brown colouration through the whole breadth of the inner capsule to the nucleus lenticularis. This place lay immediately behind and bounding that which, according to Flechsig, contains the compact bundle of the fibres of the pyramids. A partial secondary degeneration was found in the right lateral column of the cord. The authors consider the lesion of the compact bundle of the fibres of the pyramids, which ascends between the optic thalamus and the posterior part of the nucleus lenticularis, to have been the cause of the pathological appearances; but that it is also possible that lesions of the fibres of the pyramids in other places (as the inner part of the capsule) may be followed by the same, or similar results.

The fourth section is on ataxy, and ataxy after acute diseases. A case of cerebral ataxy is interesting, showing that circumscribed disease of the motor tracts of the cortical substance of the brain may cause crossed ataxy. It was that of a woman suffering from tuberculosis, who first experienced a feeling in the right hand and arm as if ants were running over it; and soon after this a difficulty in using the limb. Though the sensibility of the skin was unimpaired, all sense of the position of the limb in space was lost. Later on, headache, aphasia, and paralysis of the right side set in. After death, along with tubercular meningitis of the base, a flat cheesy tumour was found in the posterior part of the left frontal lobe, and a second smaller one on the parietal lobe. Similar results have been described by Bernhardt, Gelpke, Fritsch, Hitzig, and Nothnagel, in their experiments upon excision of the cortical substance of the brain; and recently by Munk. As the authors (like Friedrich) believe that the destruction of co-ordination of movement is to be referred to lesions of the cortical substance of the cerebrum, cerebellum, medulla oblongata, or spinal cord, there remains a series of cases of ataxy, which until now have wanted any distinct anatomical proof of the place of the lesion in the cerebro-spinal system. These are the cases of acute or functional ataxy after acute illness. The authors group the recorded cases and some new ones under three heads: 1. Cases with more or less rapid recovery; 2. Cases ending in chronic incurable disease; 3. Cases rapidly leading to death. To the first group belong cases of acute ataxy after intermittent fever (communicated by the authors), pneumonia, erysipelas of the face, scarlatina, measles, typhus, and diphtheria. Most probably, in all these cases, there is a wide-spread pathological process independent of the nerves, which can only, in a few cases, be more accurately localized, as by absence of the patellar tendon-reflex in the lumbar cord, by aphasic conditions in certain regions of the cerebrum, etc. To the second group belong especially the cases following varioloid and

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typhus, described by Westphal and Otto (*Centralblatt für die Med. Wiss.*), and a case likewise after typhus, observed by Kahler, and the important case described by Ebstein (*ibid.*, 1872, p. 367). There proof was given that, after abdominal typhus, an illness may arise, causing after several years small sclerotic foci in the medulla oblongata and medulla spinalis. In the third group, that of cases with fatal results (Leyden, Jolly, Oertel), the condition was that of extensive acute myelitis, from which, as Leyden showed, sclerosis may arise (*Centralblatt für die Med. Wiss.*, 1878, p. 676). In cases of the first group, with quick recovery, the authors assume that there has been an acute illness caused by the migration of fungi, which, in consequence of the diminished resisting power of the organ attacked, that is to say, in conditions favourable to the development of the fungi, may lead to myelitis and sclerosis.—*London Med. Record*, Feb. 15, 1880.

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Cases Illustrating the Connection between Phthisis and Brain Disease.

Two cases of lung disease, with secondary brain complication and paralysis, published early this year by Professor SENATOR, of Berlin ("Zur Diagnostik der Hirnerkrankungen"—*Berliner Klin. Wochenschrift*, Nos. 4, 5, 6, 1879), and to which our attention has recently been directed, are of so interesting and unusual a character that an abstract of them cannot but be acceptable to our readers even now. Later on in this article we shall bring forward some other cases belonging to the same category, but more interesting from the light they throw on cerebral localization than from their etiology.

The first case which Professor Senator describes is that of a man, aged thirty, admitted under his care on July 31, 1878, with dulness of the upper lobe of the right lung, bronchial breathing, not very abundant bubbling râles of medium size, cough, and rather scanty expectoration of a somewhat putrid character. With the exception of some fever in the afternoon, and occasional diarrhœa, his general health was as yet but little impaired, and he did not at any rate require to keep his bed. The aspect of affairs soon altered. On the 4th of August he first noticed that his right hand was weak, and that he dropped his spoon at meals. On August 5 it was found that all the fingers of this hand were partially paralyzed, and could be neither flexed nor extended properly. There was no alteration of the sensibility of the skin, but the whole right hand and forearm were warmer than the left, and perspired freely. The next day voluntary movements of the hand were quite abolished, and the forearm seemed somewhat œdematous in comparison with the left.

The forearm muscles proper became paralyzed on the 7th of August; on the 8th the patient had an epileptiform fit with loss of consciousness, and beginning with twitchings in the right arm. These fits recurred on the two following days with different degrees of intensity, the right side of the body being alone convulsed, with scarcely impaired consciousness in one of them. On August 11 the muscles supplied by the lower branches of the facial nerve were paralyzed; in the next two days the power of voluntary movement of the right leg was lost. Sensation everywhere remained intact, but the patient gave an inaccurate account of the position of his limbs. On August 14 symptoms of aphasia appeared, and on August 16 he only answered "yes" or "no" to questions, and that not always coherently. From this time he gradually became apathetic, and then comatose, and died on August 19. The electrical irritability of the arms was found the day before death to be the same on the two sides, but the circumference of the right arm on measurement was about half a centimetre less than that of the left; whereas on August 7 the latter was a centimetre the smaller. The ophthalmoscope gave no clue to the nature of the brain disease. The pulse was not re-

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tarded and ranged between 92 and 112. The highest evening temperature was 39.4° C. on August 13; the highest morning 39.3° on August 14.

A cavity was detected at the right apex some days before the patient's death. We pass over the details of the post-mortem examination of the phthisical lungs, to give a brief note of the state of the brain. In the left hemisphere an abscess was found, containing about fifty grammes of foul pus, and extending from close under the pia mater to about half a centimetre from the roof of the lateral ventricle. The corpus striatum and optic thalamus were intact. The exact position occupied by the abscess, as far as could be made out, was the region of the ascending frontal convolution,[1] and especially where it borders the fissure of Rolando, and a small part of the neighbouring first and third frontal convolutions. The ascending parietal convolution was slightly discoloured and flattened on the side towards the fissure of Rolando, but otherwise scarcely affected by the abscess.

There was no sign of any old or recent injury to the skull. Except a couple of spoonfuls of serum in the ventricles, the rest of the brain—pons, crura cerebri, and medulla oblongata—were healthy, as well as the bloodvessels at the base.

The diagnosis of the disease was doubtful during life. It lay between cysticercus (the patient having once suffered from tapeworm), tubercle, and abscess. The post-mortem showed that the first two contingencies were inadmissible. The absence of a rigor, Senator specially observes, must not be taken as negativing the existence of abscess.

The great interest of this case arises, first, from the connection between the abscess and the ulceration of the lung; and secondly, from the nervous symptoms produced by the peculiar situation of the abscess. The possible dependence of cerebral abscess on lung disease, first pointed out in 1858 by Sir W. Gull, has since been insisted on by Biermer, R. Meyer, and Huguenin; but from 1867, when Meyer collected and published eighty-nine cases of all forms of this affection, eleven of which were complicated with suppuration in the lungs, until the end of 1878, only ten cases had appeared in the English and foreign medical journals in which the reporters had mentioned the existence of pulmonary disease, and in several of these they only spoke of it casually, as if it could have no possible bearing on the production of the abscesses. Senator gives references to twenty-six cases of abscess of the brain, published between 1867 and 1868, in which are included the ten above referred to, the remaining sixteen being described by the writers as "idiopathic." This fact alone shows how important it is that the attention of the profession should be directed to the relation of pulmonary disease to cerebral abscess. The physiological researches of Hitzig, Ferrier, and others, have left little doubt that part of the cortex of the brain has motor functions, and the results of pathological observation every day add confirmation to this view. Having recently spoken of this cortical centre in reviewing Dr. Decaisne's work "Des Paralyses Corticales du Membre Supérieur" (*Medical Times and Gazette*, November 1, 1879, page 511), we need say little further with regard to cerebral localization in Dr. Senator's case than that the absence of lesion of the left ascending parietal convolution, with complete

[1] Professor Senator speaks, in first describing the relations of the abscess, of the "second frontal convolution" (*zweite Stirwindung*) as the most involved (*loc. cit.*, page 43), but it is clear, not only from what we know of the "motor centre" of the cortex, and also from his own after-statement (*loc. cit.*, page 61), that "the motor disturbances must be explained by the disease of the ascending frontal convolution (*vorderen Centralwindung*)," that he was in error in speaking of the second frontal convolution.

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paralysis of the right upper and lower extremities, is noteworthy. Certain peculiarities in the symptoms observed in this case deserve careful attention—(1) The patient had disturbance of the muscular sense, so that he was unconscious of passive movements or changes of position in his right arm and leg. The same thing has been observed by Hitzig, Nothnägel, and Munk, after extirpation of the corresponding region of the brain in animals. The only other published case where this symptom was observed, and which was verified by an autopsy, is, as far as Senator knows, that of Gelpke (*Archiv der Heilkunde*, 1876, S. 418). (2) His right arm was warmer than the left; it perspired more vigorously, and for one or two days was slightly œdematous, while its circumference diminished to a measurable degree during the short time the patient was in hospital. Senator believes that his is the only known case in which *cortical* disease of the brain and sweating on the paralyzed side have been noted together. In disease of the large ganglia, from hemorrhage, etc., sweating is, of course, by no means so very uncommon. The experimental results of Bochefontaine, Hitzig, and others, who found that extirpation or irritation of certain parts of the motor region of the cortex were followed by a rise of temperature in the opposite limb, are thus strengthened, if not confirmed, as are also those of Luchsinger, Nawrocki, and Adamkiewicz (*Medical Times and Gazette*, October 25, 1879, page 486), with reference to a cerebral centre of the sweat function. The apparent rapid atrophy of the muscles of the right arm and forearm in the last ten days of the patient's life, Professor Senator regards as due to a possible injury of the "giant" nerve cells discovered by Betz in the motor region of the brain (*Medical Times and Gazette*, vol. ii., 1874, page 498), and which may perhaps have trophic functions analogous to those of the large cells in the anterior cornua of the spinal cord; but this is a question which cannot be settled without much further investigation. It is nearly certain, however, that the atrophy cannot be accounted for in this case by disease of the particular muscles, for, though paralyzed to the will, they were repeatedly violently contracted during the epileptiform seizures. With reference to these seizures, the fact that at first they could be abated by drinking salt and water, or by tying a band round the arm in which the twitchings began, is interesting, though of course frequently observed in true epilepsy, and of late in cortical disease (Charcot and Pitres, and others).

Senator's second case may be dismissed much more briefly than the first. Again, we have paralysis beginning in the right hand, extending to the lower branches of the facial nerve, then to the whole arm, and lastly to the right leg, in a man of twenty-nine, with phthisis and cavities in the left lung, the patient dying within eight days of the first onset of nervous symptoms. As in the first case, general sensibility was unaffected, but no convulsions occurred, and there was no aphasia. The bladder and rectum were not paralyzed in either case. In the second, consciousness was preserved to the last. The post-mortem examination differed very materially, however, in the two cases, for in the second *no localized disease could be detected anywhere in the brain*. The most careful search revealed nothing but considerable dilatation of the bloodvessels of the substance of both hemispheres—if anything, more left than right,—general injection of the pia mater, and fulness of the large veins. Professor Senator calls attention to the onset of lobar caseous pneumonia with marked cyanosis in the last fortnight of his patient's life as possibly explaining the cerebral symptoms. Assuming coincident, but unevenly distributed, cerebral hyperæmia, it is not unlikely "that the motor centres, or tracts in the left hemisphere, were specially compressed, although no anatomical proof of this could be discovered." Cases like the above are, as Senator observes, very scantily represented in medical literature. Graves and Andral have referred to one or two of doubtful resem-

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blance to it, but the nearest approach to it is one by Romberg and Henoch ("Clinische Beobachtungen;" Berlin, 1851, S. 45). Since Professor Senator published his paper, three other German physicians have recorded cases of phthisis with brain symptoms and paralysis,—Dr. Goltdammer ("Kasinstische Mitheilungen zur Pathologie der Grosshirnrinde"—*Berl. Klin. Wochenschrift*, Nos. 24, 25, 1879), Professor Drasche, of Vienna ("Ein Fall corticaler Epilepsie"—*Wiener Med. Wochenschrift*, No. 39, 1879), and Dr. Bernhardt, of Berlin ("Klinische Beiträge," etc.—*Archiv für Psychiatrie*, Bd. iv., S. 698), the reference to whose paper we owe to Professor Drasche. Their cases, however, have no bearing on the connection of phthisis and abscess of the brain, for the lesions met with in the brain were tubercular. They interest us mainly because of their bearing on the subject of cerebral localization and the motor centre. Dr. Goltdammer's patient, a man of forty-two, with advanced phthisis, was seized ten days before death with headache, followed by epileptiform convulsions involving the left arm and left facial muscles, with loss of consciousness. Soon afterwards the left arm and the parts supplied by the buccal and ocular branches of the facial nerve became paralyzed. The paralysis here never extended to the left leg, and the patient quickly died with high fever and coma. The right ascending frontal and parietal convolutions were found flattened, pale, and broader than normal, with the pia mater over them thickened and the seat of miliary tubercles. The gray substance of the median portion of these convolutions was softened at three spots, each about the size of a pea, and a deep section revealed a nodule of hemorrhagic softening as large as a walnut near the middle of the fissure of Rolando. The softening was probably the result of obliteration of vessels, partly by tubercles in their adventitia, and partly by the compression of the thickened pia mater. The rest of the brain was healthy. Professor Drasche's case only differs from the last in the leg as well as the arm and face becoming paralyzed. Here also there was loss of consciousness. The patient was again a male, aged twenty-four. The pia mater covering the ascending convolutions was found studded with caseous tubercular nodules, and there were gray miliary tubercles in the Sylvian fissure. The gray substance of the particular convolutions was softened. We have not been able as yet to read the details of Dr. Bernhardt's case, but it is nearly identical, according to Professor Drasche, with his and Dr. Goltdammer's. It will be clear, even from the meagre description we have given of these latter, that they by no means rival Senator's two cases in physiological or pathological interest. The termination of phthisis in tubercular meningitis is no rarity; it is only the special localization of the tuberculosis and its products which arrests our attention here. Senator's cases stand out from the rest, especially his first, by the association of a rise of temperature with sweating in the paralyzed arm, and by the curious affection of the muscular sense and possibly of the trophic nerves of the limb. It is these little differences between the symptoms which mark a series of roughly similar cases that should make us pause and think whether the cortex of the brain is not even more complicated than many persons at present imagine. It seems not unlikely that in one and the same convolution there may be a series of ganglionic centres, each controlling a separate function, just as we have long known of the existence of such ganglia or "nuclei" in the floor of the fourth ventricle. It is better, however, to accumulate facts than to speculate prematurely.—*Med. Times and Gazette*, Jan. 17, 1880.

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Inhalation of Benzoate of Soda in the Treatment of Phthisis.

Great interest has been excited in Germany by alleged cures of phthisis by the inhalation of pulverized solutions of benzoate of soda. So great, indeed, was the

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excitement produced by the first published account of the cures effected in quite desperate cases, by Professor Rokitansky of Innsbruck and his assistant, that the political journals rang with the reports of this marvellous discovery, society was greatly stirred by it, and the echoes of it have been noticed in paragraphs current in our newspapers; various queries have also been addressed to us on the subject. We have thought it well to wait until the test of further clinical experience has been applied. This has now been done, with, unfortunately, decisive negative results, especially by Dr. Guttmann of Berlin.

The history of the matter begins with a communication, made by Professor Klebs, at a scientific meeting in Munich, in June, 1877, when he announced the opinion, founded on experimental and microscopical observations, that tuberculosis was an infectious disease of parasitic nature; that it was induced by certain micro-organisms which invaded the body and multiplied in it; and that the expectation might be entertained of curing it by the employment of means which are calculated to annihilate these organisms. The experimental proof of the parasitic character of tuberculosis was conducted by Klebs in this wise. If the smallest piece of tubercular matter—for example, a fragment so minute that it can hardly be seen by the naked eye—be put into a vessel with a suitable nutritive fluid, such as a solution of white of egg, the solution, after a short time, becomes turbid, from the development in the fluid of a great number of micro-organisms, which show lively movements. In a control experiment, in which the same solution of white of egg is put into a similar vessel, but without the addition of tuberculous substance, the solution remains quite clear. Cultivation of successive solutions of white of egg, to which only a drop of the first tested solution is added, leads to the infection of each in turn, if a drop of the first be added to a second, a drop of the second to a third, and so on. Further interest attaches to this theory on the origin of tubercle, in consequence of the recently published researches of Dr. Schüller of Griefswald. These researches show that animals, into which tuberculous masses have been inoculated by tracheotomy, or who have been injected with micro-organisms obtained by fractional culture, according to the method of Klebs, died without exception with very marked phenomena of emaciation, loss of heat, and, after a little time, general miliary tuberculosis. When, however, the same animals, after infection with an equal quantity of tuberculous substances, and the bacteria obtained from them, and after the appearance of the characteristic phenomena of disease, as in the previously mentioned animals, were subjected to the inhalation of a pulverized solution of benzoate of soda for some weeks, they all survived. Their body-weight rapidly recovered itself; growth of hair became stronger; and, after a short time, the animals showed again their normal conditions. In passing, it may be mentioned also that Dr. Graham Brown had found, in the course of researches in the laboratory of Klebs, that when the fungi of diphtheritic membranes were treated with a solution of benzoate of soda, or when animals were injected with these fungi which had been saturated with a solution of benzoate of soda to the extent of a thousandth part of their body-weight, the diphtheritic fungi did not grow, and became inactive.

On the basis of these results of research, a five per cent. watery solution of benzoate of soda was employed, in the hospital at Innsbruck, by pulverization, as an inhalation in cases of phthisis. In a communication of Dr. Kroczak, assistant to Dr. Rokitansky, to the *Wiener Medizinische Presse*, September 14, 1879, favourable results were announced which had been obtained in fifteen patients so treated, "the results exceeding all expectations." The three most severe of these cases were described in detail. Two showed "generally diffused local phthisis, with the formation of caverns." The third, also a case of exten-

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sive phthisical disease, was complicated with well-marked pleural exudations. These three were only put forward as examples of cases treated, and were, as was stated in so many words, "persons, so to say, moribund upon entrance to the hospital, and who were sent out cured." All these patients were already free from fever at the end of a week; the third after ten days; and the weight of the body also very quickly increased. It is not stated how long the treatment by inhalation was carried on; but it could scarcely have been longer than three weeks, according to the dates given at which the patients entered the hospital and left it cured.

Dr. Guttmann, in a communication which he made to the Berlin Medical Society in November, and which was recently published in the *Berliner Klinische Wochenschrift*, in recalling these preliminary facts, observes also that Professor Schnitzler of Vienna had arrived lately, from a series of experiments (*Wiener Medizinische Presse*, 1879, No. 42), at the conclusion that no medicament enters the bronchi by the inhalation of pulverized medicated solutions. Guttmann, however, points out that these conclusions are a little too absolute, inasmuch as well-known pathological observations show that, after continuous exposure to an atmosphere loaded with particles of coal or iron, or other coloured substances, the lungs are found after death to be impregnated with such materials. While it seems clear that the greater part of the substances pulverized in medicated solutions are deposited on the tongue, pharynx, soft palate, and epiglottis, it seems nevertheless, beyond doubt, that small particles pass the rima of the glottis, and to a small extent enter the trachea, and possibly pass into the bronchi. Of course, such results are obtained much more completely when the patient can be retained permanently in the inhalation-chamber. Dr. Guttmann's treatment extended over thirty-one phthisical patients, of whom twenty-four were men and seven were women, from seventeen to fifty-six years of age. The phthisis was in the majority of the cases very extensive, often having proceeded to the formation of considerable cavities; in a smaller number of cases, the disease was relatively lighter—cases which were at times either altogether free from fever, or which were running their course with only slight fever. Those patients were purposely chosen for this observation whose temperature showed a well-marked hectic type, that is to say, low morning temperatures, high evening temperatures, and moreover who, during the latest part of their stay in the hospital, had shown a certain steadiness in their temperature-curves. Any influence of the treatment by inhalation could, therefore, be very easily observed in the temperature-curves of such patients. The temperature was taken three times a day at the same periods—morning, midday, and evening. The inhalations took place twice daily—morning and evening. The solution of benzoate of soda was a five per cent. solution in water. At first, Dr. Guttmann prescribed only five *grammes* of benzoate of soda daily, that is to say, the inhalation of one hundred *grammes* of solution; later, he rose, in the case of five patients, to ten *grammes* of the substance, that is to say, two hundred *grammes* of the inhaled solution a day. When Rokitansky's communication appeared, in which he intimated that his patients had daily inhaled the one-thousandth part of their body-weight of benzoate of soda in substance, that is to say, fifty *grammes* of benzoate of soda in substance per fifty *kilogrammes* of body-weight, and therefore a thousand *grammes* of the solution, then Dr. Guttmann also raised the prescriptions of the patients to these large quantities. Of the thirty-one patients, fifteen inhaled during three weeks; one for two days (the latter had during this time consumed seven hundred and ten *grammes* of benzoate of soda in substance); six patients inhaled during from fourteen to nineteen days. Of these, one took six hundred and fifty *grammes* of benzoate of soda in substance. The remaining nine patients

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inhaled during from three to twelve days. In four of these who did not tolerate inhalation, the benzoate of soda was given internally, in the quantity of from twenty *grammes* of benzoate of soda to two hundred of water (one tablespoonful every two hours). Of these thirty-one patients, nine died—seven men and two women; two were allowed at their own wish to leave the hospital; and the rest were still there. The result obtained was as follows: In not one case—not even, therefore, in the patients who inhaled daily a thousand *grammes* of the solution—was the temperature in any observable manner lowered by the benzoate of soda, or was any influence exercised on the temperature-curves. Dr. Guttmann adds that the internal use of the benzoate of soda, during a considerable time in which a daily quantity of about eight *grammes* in substance was taken, was equally without influence on the febrile temperature. On the second notable factor in the progress of phthisical patients, improvement or falling off in weight, the treatment with benzoate of soda was equally without influence. In most cases, the weight of the body fell off progressively, in proportion to the amount of pyrexia and exactly in the same manner as though the patients had not been undergoing treatment during this time. Only in one or two patients, in whom the fever was throughout and from the first slight, did the body-weight remain stationary or slightly increased. Neither did the local symptoms of the phthisis undergo any change during the course of the treatment, in the sense of improvement. Dr. Guttmann observed, indeed, that the catarrh and bleeding diminished shortly after the inhalations; that is to say, that the patients coughed and expectorated less for about an hour after the inhalations were over. This, however, he attributes to the fact that the inhalation, and the continuous deep inspiration required while it was going on, excited during the time a much more considerable amount of coughing by irritation; and thus, during the period of inhalation, a much more considerable amount of expectoration was induced—thus clearing the cavities and tubes, and giving rise to less expectoration for a short time after the inhalations had ceased. There was no permanent improvement either of cough or of expectoration after the inhalations, nor were the nocturnal sweats, when these were present, at all lessened by the benzoate of soda. While in not one case was any symptom of phthisis observed to be improved by inhalation; on the other hand, an occasionally unpleasant incidental action of the benzoate of soda was observed. A good many patients complained of nausea and some of vomiting; symptoms which, partly at least, were excited by the continuous stretching forward of the tongue during the inhalation, on which Rokitansky lays considerable stress, in order that the inhaled substance might reach the air-passages. It appeared to be partly due to the fact that the benzoate of soda acts as an excitant on the mucous membrane of the stomach, in so far as it reaches it by the inhalations through the œsophagus, and so onwards. Guttmann has observed in one case, on *post-mortem* examination of a phthisical patient who had inhaled benzoate of soda quite up to the end of his life, a recent and general capillary congestion of the mucous membrane of the stomach. In the *post-mortem* examination of nine phthisical patients, who had inhaled benzoate of soda, nothing was found in the pathological condition of the lungs which in any way indicated the commencement of a healing process. There was generally an extensive phthisical change, with cavities filled with fluid pus. In one case of left-sided pneumothorax, there was a perforated cavern. Two phthisical patients, who had for several years shown no symptoms of hæmoptysis, were attacked freely with hæmoptysis after inhalations. These researches, therefore, carried on during the same period, in the same manner as those which were published from Rokitansky's clinique, are in absolute and complete opposition to them.

Dr. Wenzel reports also ten cases of phthisis, treated at the Charité Wards at

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Berlin, under Professor Waldenburg, with benzoate of soda inhalations, under similar conditions to those of Dr. Guttmann. He also reports, as the result of treatment, that neither in the more severe nor in the lighter cases was any direct effect produced on the phthisical process. There was not once even any symptomatic or palliative improvement. Four of them ended fatally during the three or four weeks in which the treatment was being carried on. There was no effect upon the febrile process, nor was the appetite improved. The inhalations for the most part were well tolerated, except that in two cases they produced slight nausea and vomiting; and many of the patients complained of the inconveniently long inhalations. On the whole, the results of the experiments in Dr. Waldenburg's wards were not at all more favourable than those of the other cases.

In the last number of the *Wiener Medizinische Wochenschrift*, Professor Drasche reports, from the General Hospital at Vienna, the results of his employment of benzoate of soda in twenty cases, and these results are equally disappointing. The effect of the benzoated inhalations appears to have been quite without palpable influence upon the well-being of the patients. Six out of the twenty died; three of them were on the point of death; six were neither better nor worse; and, altogether, the results were entirely hostile to those announced by Rokitansky and Kroczak. Moreover, Drasche observed one very significant case, in which, at the beginning of the benzoate treatment, the larynx was quite intact, but, under the continuous inhalations, reddening and swelling of the vocal cords commenced under his eyes, went on to hoarseness, infiltration, and, finally, ulceration on both sides, notwithstanding the continuous moistening of the larynx by this pulverized solution of the benzoate of soda. This fact is, he observes, a very significant comment on the theory, that physical ulcerations are due to the excessive development of the infective bacteria, which benzoate of soda is supposed to destroy. The whole question of the application of disinfectant inhalations to the lung is treated, in its historical relation, in Waldenburg's book, *Die locale Behandlung der Krankheiten der Athmungsorgane;* and it is, of course, one of the oldest and most obvious methods of treating lung disease. As to the physiological action of benzoate of soda, apart from its antimycotic power, for which it was recommended by Klebs and employed by Schüller and Rokitansky, in this instance it may be observed that Salkowski, who, in 1875, first called attention to the antiseptic action of benzoate of soda, points out now, in Virchow's *Archiv* (vol. 78, part 3), that the elimination of nitrogen appears to be considerably increased by it, and that an increase of the destruction of the albuminoids of the body is caused. The increased excretion of nitrogen extended to five *grammes* daily; and, in the course of a week, by a continuous use of high doses of benzoate of soda, a loss of one *kilogramme* of muscle would be caused. These exact researches put Rokitansky's observations of an increase of body-weight, in certain of his phthisical patients, in a special light; since it is clear that, if such increase occur, it must be rather as the consequence of the improved nutrition of the patients after being taken into hospital from poor homes, than of any arrest of the tubercular disease, which does not seem to be affected by the benzoate of soda, or of any direct action of benzoate on the body, for such action would evidently be in an opposite direction.—*British Med. Journal*, Jan. 3, 1880.

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Cardiac Lesions in Chronic Interstitial Nephritis.

In a note presented to the Société Anatomique, and published in the current number of *Le Progrès Médical*, Drs. Debove and Letulle direct attention to the constant presence of fibroid overgrowth in the papillary muscles and wall of the hypertrophied left ventricle in chronic Bright's disease. They assert that

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such a condition has been hitherto overlooked by writers; but it is fair to state that it has not escaped observation, although the significance they give to it has, perhaps, not hitherto been dwelt on. Indeed, it may safely be said, as a matter of common post-mortem experience, that considerable muscular hypertrophy of the ventricle is associated with patches of limited fibroid change, and this wholly apart from any chronic valvular lesion. The present writers show, however, that the sclerosis takes place at the expense of the muscular elements, which appear shrivelled and wasted in the vicinity of the change, and they go so far as to attribute the final symptoms of chronic Bright's disease to this cardiac condition. Thus they say that the first period of interstitial nephritis—the renal period—is characterized by slight albuminuria, polyuria, and slight and transitory œdema. But in the second, or "cardiac stage," palpitation and dyspnœa supervene, with oliguria, considerable albuminuria, and increasing anasarca, with dropsical effusions. Whatever truth may exist in these suggestions, they are certainly open to the criticism that no notice is taken of the increased impairment of the renal function, with the altogether strange omission of any reference to uræmic poisoning as an element in the production of some of the symptoms. The note is too brief to admit of extended or minute criticism, and we are glad to see that the authors promise to continue their investigations, and to enter more fully into the subject in a memoir shortly to be published.—*Lancet*, Jan. 3, 1880.

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Passage of a large Gall-stone per Anum.

At a late meeting of the Pathological Society of London, Dr. Ord showed a large gall-stone which had been passed per anum by a lady under the care of Dr. Carr Roberts. She had been recently confined of a living child, and the only symptoms at all referable to the calculus were excessive pain in the back, and constant diarrhœa of a pale-yellow colour; there was no jaundice. The stone, which was removed by the finger, measured 1⅝ inch in its long diameter, and 1¼ inch across. It was composed of cholesterine and bile pigments, and was therefore clearly not an enterolith, which consists of hair, concreted indigestible matter, and triple phosphates, lime salts, eleagic or litho-fellinic acid, but never of cholesterine. Referring to the structure and composition of gall-stones, Dr. Ord pointed out that they consist chiefly of a mixture of cholesterine with biliary pigment, mucus, lime salts of biliary acids and carbonate of lime being occasionally present. On section, they are seen to consist of four parts: a dark central portion, consisting mainly of pigment, with a small quantity of cholesterine in rhomboidal forms; around this a lighter portion with a distinctly radiated structure. composed of columnar masses of colourless cholesterine, with biliary pigment packed between; surrounding this is a zone, with the laminæ arranged concentrically, and composed of undulating crystalline fibres of cholesterine stained with pigment, more deeply stained towards the surface; the outer surface of the calculus, which is also the most recently formed, is deeply coloured, without any definite structure, and is composed of an intimate mixture of cholesterine in shapeless masses, spheres, or fibres, with biliary pigment. These facts point to a gradual metamorphosis of the calculus, and Dr. Ord suggested that it was the presence of the colloidal pigment which prevented the freshly deposited cholesterine from assuming at once its proper crystalline form; but that, as the pigment tends to become itself crystalline, the two bodies gradually separate, and the cholesterine crystallizes. In support of this hypothesis, it was alleged that in the most deeply pigmented calculi the outer layer is abundant, while in the paler ones the crystalline centre predominates. Dr. Ord related some experiments in which he found that cholesterine deposited in albumen or gelatine is at

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first spherical, and gradually assumes a quasi-crystalline form; and that mixtures of cholesterine and bile pigments, dissolved in hot acetic acid, form, on cooling, homogeneous spheres, which gradually break up into smaller spheres, and then again into needles, which arrange themselves in a mixed laminar and crystalline structure around the centre of each sphere.—*Lancet*, Jan. 10, 1880.

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The Relationship of Bright's Disease to other Diseases. The Primary Forms of Nephritis.

In our preceding number (p. 164), we gave at some length the results of Prof. BAMBERGER'S researches into the connection between the secondary forms of Bright's disease and the diseases in which they originate.[1] We now propose to follow him in his investigation of the primary forms, and especially of their sequelæ. It will be remembered that the total number of primary and secondary cases of nephritis examined by Professor Bamberger was 2430, and of these 807 were primary—that is, cases either of parenchymatous (tubular) or of interstitial nephritis occurring in previously healthy subjects. Professor Bamberger remarks at the outset that the origin of the disease can only be referred in a minority of the cases to catching cold or getting wet; in the majority it cannot be explained even after the most careful clinical inquiry. The 807 primary cases included 67 acute, 357 chronic tubular, and 383 interstitial nephritis.

The sexes were represented by 445 males, or 55 per cent. of the whole number, and 362 females, but Professor Bamberger shows that the proportion of female to male cases is not accurately brought out by these figures. According to the ten years' mean the proportion of male to female patients of all kinds in the Allgemeines Krankenhaus at Vienna is as 63 to 37. Hence, if primary Bright's disease were equally common in both sexes, the numbers should be 508 males and 299 females; whereas, in fact, the preponderance is on the side of the females in the cases before us; and if the secondary forms associated with pregnancy and parturition were included, it would be still greater.

The ages of the primary cases for each decennial period are given in the following table. Professor Bamberger states that the majority of cases of acute nephritis (54 out of 67) occurred between ten and forty years, of chronic parenchymatous nephritis (214 out of 357) between thirty and sixty, and of granular contracted kidney (238 out of 383) between forty and seventy years.

Decennial period.	No. of cases.	Males.	Females.
1	1	—	1
2	50	33	17
3	121	64	57
4	149	93	56
5	156	94	62
6	152	78	74
7	115	57	58
8	55	22	33
9	8	4	4

The sequelæ, or the diseased conditions which complicate the later stages of the chronic forms of primary Bright's disease, offer more interest than the (at present) barren subject of the etiology of the latter. Beginning with affections of the brain, we find that cerebral hemorrhage occurred in 82 of the 807 cases, 52 of these being associated with granular kidneys. Two points are worth

[1] Volkmann's Sammlung Klinischer Vorträge, No. 173.

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notice here: first, the great size of the extravasations in the apoplexy of Bright's disease; and, secondly, the frequency with which the renal mischief escapes detection *intra vitam*, so that apparently healthy individuals are suddenly and unexpectedly struck down by fatal hemorrhage. Encephalitis, with localized *foci* of inflammatory softening and meningitis, are both of rather rare occurrence. The latter, especially the tubercular form, is a much commoner feature in secondary than in primary Bright's disease. Pneumonia, on the other hand—to turn to diseases of the lungs—is very common, and 163 cases, or 22 per cent., were complicated with it. It generally is of the croupous lobar kind, and here again the elderly people whom it kills are often only found to be the subjects of granular kidney (interstitial nephritis) in the post-mortem theatre. Recent pleurisy, generally of a fibro-serous character, and uncomplicated with pneumonia or any other lung affection, occurred fifty-seven times, or in 7 per cent. of the cases. The other chief sequelæ of Bright's disease observed by Bamberger—excluding heart diseases, which will be presently considered by themselves—were peritonitis (22 cases, or 2.7 per cent.), dysentery, and extensive intestinal catarrh, particularly the former (109 cases, or 13.5 per cent.), and general dropsy (215 cases, or 26.6 per cent.). Bamberger considers the dysentery as very probably due to the transudation of urea into the bowel, and its conversion there into caustic ammonium carbonate, according to the theory of Treitz,[1] to which he refers.

Of all the pathological changes secondary to Bright's disease which the heart undergoes, none is, of course, so important as hypertrophy; fatty degeneration and pericarditis, generally serous, are, however, not so very rare, and the former was found in 97 cases, the latter in 99, 64 times as recent inflammation. Endocarditis and myocarditis are both so seldom met with as to need no further mention here. On the other hand, the frequency of cardiac hypertrophy and dilatation is most remarkable. Of Bamberger's 807 cases of primary Bright's disease, they occurred in 344, or 42.6 per cent. of the whole number. For the sake of brevity, we append a table of the different combinations of hypertrophy and dilatation which were associated with the three forms of nephritis adopted by Bamberger in his classification. It shows that the right side of the heart is *never*, the left side often, alone hypertrophied. That excentric hypertrophy of the whole heart is the most frequent condition (in 41 per cent.), and excentric hypertrophy of the left side (31 per cent.) the next in frequency, while simple hypertrophy of the whole heart and simple dilatation are rare.

	Form of Bright's Disease.			
	Acute.	Chronic tubular.	Atrophic (granular).	Total.
Excentric hypertrophy of whole heart .	3	51	88	142
Excentric hypertrophy of left ventricle .	4	38	65	107
Simple hypertrophy of whole heart .	2	3	6	11
Simple hypertrophy of left ventricle .	2	24	39	65
Simple dilatation of whole heart . .	4	5	7	16
Simple dilatation of left ventricle . .	0	1	2	3
Total . . .	15	122	207	344

But what a careful reader will at once notice in this table is that, as Bamberger says, "Hypertrophy of the heart occurs in every period of the disease, but with greater absolute as well as relative frequency the longer the disease lasts." Thus, 122, or more than a third of the 344 cases, were associated with parenchymatous, or tubular, nephritis; whereas it is generally taught and believed,

[1] "Ueber urämische Darmaffectionen" (Prager Vierteljahrschrift, 1859, Band iv.).

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especially in England, that cardiac hypertrophy is the appanage of interstitial nephritis. Bamberger's position on this question is as follows: After studying it carefully for years, he finds that cardiac hypertrophy is met with in both forms of primary chronic Bright's disease, but decidedly more often in the interstitial form. Its relative frequency in the latter is, however, not sufficient for it to be made a point of distinction between tubular and interstitial nephritis; and he regards the difference between the two forms in this respect, not as the result of different pathological processes, but *of the longer or shorter duration of the renal affection.*

Before entering into a short discussion of Bamberger's theory of the actual cause of the hypertrophy, it may be interesting for a moment to illustrate by his figures the remarkable way in which certain of the complications of primary Bright's disease increase in frequency directly as the duration of the malady, while others, on the contrary, diminish in the later and reach their maximum in the middle period. The latter statement is true of pneumonia, pleurisy, dysentery, and general dropsy.

Complication.	Percentages.		
	Acute.	Chronic tubular.	Atrophic interstitial.
Fatty degeneration of the heart	6.0	12.0	13.0
Cerebral apoplexy	1.5	8.0	13.6
Encephalitis	1.5	3.0	4.4
Pericarditis	3.0	8.4	14.4
Cardiac hypertrophy	22.4	34.2	54.0
Pneumonia	2.0	22.0	19.0
Pleurisy	7.5	9.0	5.0
Dysentery	12.0	16.0	12.0
Dropsy	33.0	33.0	19.0

Without discussing this table in detail, we cannot help noticing the large percentage of cases of cardiac hypertrophy (nearly half) associated with the acute and chronic tubular forms of Bright's disease. It will be seen that Bamberger's statement that cardiac hypertrophy occurs in all stages of primary Bright's disease, but with greater relative frequency the more chronic the latter, is fully borne out.

And now we come to the question of the actual connection existing between the renal and cardiac affections, as to which Bamberger admits two possibilities: either the hypertrophy depends on the renal disease, or both are dependent on a third common factor. The possibility of the renal disease being secondary to the hypertrophy is of course excluded in dealing with "primary" Bright's disease. After discussing the various theories which, from Bright onwards, have been offered in explanation of the hypertrophy, Professor Bamberger comes to the conclusion that there is nothing else for it but to accept the first possibility just mentioned, and then to explain the changes in the heart on mechanical principles by the accommodation of the organ to increased demands on its propelling powers. At first sight this looks only like Traube's theory over again (increased work from destruction of renal structure, and impediment to excretion of water from the system); and in reality the two theories are not dissimilar. Bamberger, however, considers the renal process *per se* as only effective in so far as it interferes with the urinary function. He believes that the cardiac hypertrophy is the result of "the absolute increase in the general mass of the blood owing to the diminished excretion of water by the kidneys." The course of affairs, according to him, runs thus: Excess of water in the system raises the arterial blood pressure, the left ventricle dilates and hypertrophies, and throws

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more blood into the veins; hence venous plethora, more work thrown on the right side of the heart, and dilatation and hypertrophy of the right ventricle. This theory, as Bamberger himself admits, is open, among others, to one principal objection —that while retention of water in the system is certainly of common occurrence in the more acute forms of primary Bright's disease, in many chronic cases, and especially in those of so-called contracted kidney (where cardiac hypertrophy is most pronounced), there is an apparent polyuria. To this, however, he replies that we know scarcely anything clinically of the early stages of contracted kidney; but we are almost certain, from the anatomical researches of Klebs, Buhl, and Thoma, that the progressive changes by which the urinary tubules are gradually surrounded by connective tissue, and their epithelial structures destroyed, must for a time at least diminish the excretion of water through the kidneys. It is during this period that Bamberger assumes the development of the cardiac hypertrophy. The polyuria, as we understand him, occurs later, when the collateral circulation in the kidney, which Thoma has especially described (*Virchow's Archiv*, Band 71), has established itself. A second and somewhat trifling objection to the theory is, that cases of anuria prolonged for one or two weeks have been recorded without the development of cardiac hypertrophy. Bamberger points out that not only must we know whether water was drunk, and in what quantity, during the anuric period, to form a judgment on these cases, but that the impaired state of the patient's nutrition must be remembered too. He regards them as difficultly explicable exceptions to the general rule. A third more important objection is, that retention of water ought to cause dilatation either of the whole vascular system, or at least of the arterial portion, which it has not been proved to do. The answer here is, first, that the subject has as yet been but little investigated; and, secondly, that it is very difficult to assign a mean circumference to the various portions of the aortic system, but that measurements which have been made (by Ewald) do show some increase in the circumference of the aorta under these circumstances. A final objection, that other diseases of the kidney which limit its secretion do not cause hypertrophy of the heart, is met by the answer that such diseases (cystic degeneration, multiple abscess, cancer, echinococcus, etc.) are not only very rare, but that they seldom fulfil the conditions necessary to the development of hypertrophy—sufficient duration of the disease, which must be bilateral, and which must not materially affect the volume of the blood, or greatly impair the general health. As a fact, cases in point have been reported by Cohnheim, Galabin, Stiller, and Bamberger himself. And what becomes, it may be asked, in Bamberger's hands, of the other theories of the origin of cardiac hypertrophy in renal disease? Traube's theory, as we have seen, he partly accepts and partly rejects.

Bright's original theory, that the heart enlarges owing to some change in the quality of the blood, as well as Senator's, in which urea is the substance that raises the arterial pressure in parenchymatous nephritis, and Ewald's,[1] in which a change in the blood, due to the renal disease, increases the resistance in the systemic capillaries, he rejects. He admits the possibility, but not the probability, of such a mode of origin of the cardiac hypertrophy. In the same way he refuses to admit Buhl's idea,[2] that the heart changes are due to previous inflammation, which occurs at the same time as, but independently of, the renal disease. Two facts he specially points out are fatal to Buhl's theory—first,

[1] Medical Times and Gazette, vol. ii. 1878, page 106. See Monthly Abstract, 1878, pp. 258 and 406.

[2] Ibid., vol. i. 1879, page 648. See Monthly Abstract, 1879, pp. 19 and 455.

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that inflammatory affections of the heart are of late occurrence in Bright's disease; and, secondly, that Buhl himself found all traces of inflammation absent in 21 per cent. of his cases of cardiac hypertrophy and renal disease.

Lastly, Bamberger rejects the essentially identical theories of Dr. G. Johnson and of Sir William Gull and Dr. Sutton, which refer the cardiac hypertrophy to a general affection of the small arteries and capillaries either in the form of muscular hypertrophy or of "hyaline-fibroid" degeneration. He admits that Dr. Johnson is right in describing muscular hypertrophy of the systemic arterioles with diminution of their calibre, but he denies that it precedes the cardiac hypertrophy, or that there is any proof that it does so, and he ascribes it to the increased arterial pressure which is the result of the heart-change. He also points out that these theories fail to explain the hypertrophy of the *right* side of the heart. It should be added that Bamberger is of Dr. Johnson's opinion, that arterio-capillary fibrosis, or "hyaline-fibroid" degeneration, is a product of microscopical preparation. In conclusion, if we may be allowed to express an opinion on the work of so eminent a man as Bamberger, we should be inclined to say that even *his* theory scarcely answers to the requirements of a good theory—namely, that it shall explain all the facts naturally and without being strained. It is, however, a good theory in this respect: that it suggests several points for future inquiry, which may be very fruitful in directing us to the true *rationale* of the connection between cardiac hypertrophy and renal disease. Might we suggest that we know too little about the reason for the altered function of the skin in chronic Bright's disease? Why do patients thus affected cease to perspire, and why does their skin became so dry and unaffected by the ordinary stimulants of the sweat-glands? In diabetes we can understand that the dryness is caused by the drain of water from the body; but in Bright's disease, where more or less retention of water is the rule, the explanation is difficult. Possibly, whatever the cause, one of the factors in the production of cardiac hypertrophy is this impaired function of the skin; in any case the phenomenon is of great interest, and deserves more attention than it has yet received.—*Med. Times and Gazette*, Jan. 10, 1880.

Surgery.

Recent Researches in Pyæmia and Septicæmia.

A most valuable scientific summary of clinical reports and pathological research will be found in the new volume of the *Transactions of the Pathological Society*. We refer to the report of the Committee appointed by the Society to investigate the nature and causes of pyæmia, septicæmia, and purulent infection. It consists of statistics collected from 1869 to 1878, in the London hospitals; of one hundred and fifty-six detailed reports of cases, arranged according to their clinical and pathological features, and compared with diseases produced artificially in animals; and of observations on the blood, urine, and microscopical appearances of organs in typical cases.

The greatest mortality from pyæmia, during these ten years, was in 1874–5. The early spring of 1874 was very warm, but the month of May very cold; severe winter set in on November 20th; and the rain-fall for the whole year was much below the average. The last half of the succeeding year was cold and damp. The monthly death-rate is greatest, according to this report, in February and March. The Committee invite inquiry as to the significance of these meteorological facts. The undue closing of ward windows during east

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winds, or at a sudden fall of the temperature after a run of fine early spring weather, or the great space of time from the last annual hospital cleaning, may explain the meaning of these two bad years and months.

The difficulty of defining the term "septicæmia" is dwelt upon, and, after quotations of the definitions of Burdon Sanderson, Billroth, and other authorities, reference is made to Koch's well-known experiments, which had the practical result of distinguishing a "septic or putrid examination" from a "septic or putrid infection." A heavy dose of putrid fluid, injected under the skin of a mouse, killed it in a few hours by pure chemical poisoning, leaving no signs of inflammation; nor could any bacteria be found in the animal's blood, which fluid produced no ill effects when injected into another mouse. But, when a small amount of the same putrid matter was injected, the mouse in some instances recovered; but in others, after about twenty-four hours of immunity, fatal symptoms of acute blood-poisoning set in; the blood, which was charged with bacilli, became highly infective to other animals, and œdema was found around the injection-puncture. The first condition—septic intoxication—to occur in man, must presume the admission of a considerable amount of putrid blood; so that it may be expected only after operations involving large irregular wounds, or serous and synovial cavities which have rapid powers of absorption, or in a case of acute abscess opened externally by an insufficient aperture, leaving septic matter pent up at a sufficiently high degree of pressure to allow absorption through the granulation-tissue of the walls. In twenty-eight cases of fatal blood-poisoning, without formation of secondary centres of inflammation, only two seem entitled to be classed as "septic intoxication," but on evidence admitted not to be conclusive. It is much to be regretted that cases of ovariotomy were not recorded, as, after that operation, the conditions of septic intoxication are all present; and hence that complication often appears, or at least did so before drainage and antiseptic precautions came into vogue.

The clinical distinction of septic infection from septic intoxication is beset with difficulties, though the former must be the more common disease. It may be suspected to exist in its pure form when a wound is too small to allow the rapid entrance of a dose of poison sufficient to produce septic intoxication. A large wound may, of course, involve septic infection; but, as it might be then associated with septic intoxication, the former could not, in such a case, be studied in its purest form. Evidence of infection from patient to patient is conclusive as a distinction, when it exists, as it cannot occur in pure septic intoxication; but absence of such evidence does not prove the contrary. Out of twenty-eight cases of blood-poisoning, in which death occurred without the formation of secondary abscesses, the Committee could only find two arising from wounds too small to admit enough septic matter to produce direct septic intoxication. Contrary to Billroth's assertion, rigors were frequently observed in the reported cases of pure septicæmia. In many instances, the period of invasion was very late, yet no secondary centres of inflammation could be detected after death. In other words, septicæmia is not a mere early form of pyæmia.

As to pyæmia itself, the Committee prefer to understand the term in the sense in which it is defined by the College of Physicians. The effects of injection of pus experimentally are described, according to the experience of various authorities. Inoculation of an animal with the blood or discharges from a case of pyæmia in man has never resulted in the precise reproduction of that disease; but, on referring to Appendix III. of this report, we find a record of Birch-Hirschfeld's experiments, which show that the injection of healthy pus produces nothing beyond transient fever; whilst pus containing micrococci caused severe fever, suppuration around the seat of injection, and, in a few cases, metastatic abscesses.

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The Committee have classified cases of pyæmia in groups, according to the presence, association, or absence of each and of all of the well-known pathological features of the complaint—such as visceral abscesses, thrombosis, embolism, etc. Separate classes are also made for cases of pyæmic symptoms following acute necrosis and infective endocarditis; also for "spontaneous" septic disease; and for the "infective myositis" of Nicaise, of which one case is given in the statistics.

The blood was minutely examined in eighteen cases. The white corpuscles were nearly always greatly in excess, both absolutely and relatively, to the red, without the changes in their characters as seen in leucocythæmia; the amœboid movements remained natural, or were unusually active. The proportional increase ranged from one white among one hundred red corpuscles to one white among eighteen red. As to the absolute increase, whereas, under the usual method of inspection and calculation, 2.5 white corpuscles were found on the field when healthy blood was examined, the lowest average on the field in pyæmia was twelve, and more than seventy in cases sometimes seen. The evident diminution of red cells must be taken into account.

The examination of the blood for bacteria yielded very different results in many cases. As to the statement that micrococci may be found in large quantities in the white corpuscles, the Committee could not recognize such a condition in any case; the difficulty of distinguishing these germs in the liquor sanguinis is dwelt upon. Half-a-dozen varieties of bacteria were found; and, in conclusion, so far as these observations go, it is shown that "no one form of bacteria is peculiar to any one kind of disease."

No special characteristic could be found distinguishing the urine in cases of blood-poisoning from that of any acute form of pyrexia. It was generally acid, very soon becoming ammoniacal, and was about normal in quantity in the majority of cases. Albumen, never in excessive psoportions, was nearly always present; urea was excreted about one-fourth above the normal average; and uric acid in double the amount of the healthy excretion. The inorganic constituents, especially the earthy phosphates, were diminished in quantity. Although the red corpuscles are diminished or destroyed, no potash is thereby set free in pyæmic urine; for that base is found below its normal proportions. Possibly, it is remarked, the increase of white corpuscles may account for the potash not being present in greater quantity in the urine after the destruction of the red. In scurvy, there is likewise diminution of the number of red corpuscles and diminished excretion of potash in the urine, that base being possibly retained in the blood to maintain its alkalinity, lessened by the withdrawal of the alkaline carbonates of the food.

On microscopical examination of different organs, micrococci were found in all, or at least in some, of the viscera, and their distribution is very unequal. They were nearly all in the bloodvessels, completely plugging capillaries; in masses which sometimes produced varicosities, or even ruptured the vessels, and extended into the contiguous tissues. Great pathological changes were often found in structures infected with micrococci, yet sometimes the immediate surroundings of these organisms presented little, if any, alteration from the normal condition. In larger vessels, the micrococci may line the walls as an even layer, or project from them as papillæ, which occasionally break off, and in all cases may involve coagulation of the blood passing by them. Bacteria were found in three cases, but in two there was evidence of their origin being *post mortem;* in the third, a case of acute infective myositis, rod-shaped bacteria were present in large areas within the wall of the left ventricle, within and around the vessels, and between the muscular bundles, but hardly any could be found within the sarcolemma.

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This appearance is represented in one of Dr. Greenfield's beautiful microscopic drawings, which, together with an equally fine series illustrating Mr. McCarthy's observations, accompany the report.

The obliterative endoarteritis was very frequent in arterioles in all the tissues; thrombi were commonly found in the vesicles. The walls of veins containing thrombi were often surrounded by minute abscesses, and partially destroyed, so as to be indistinguishable, except by the proximity of the corresponding arterioles found alongside the abscesses. The connective tissue had in all organs undergone changes—such as hypertrophy, increase of nuclei, swelling of the fibrous bundles or miliary abscesses.

Micrococci were seen in the liver, but not so frequently as in the kidney. They were mostly in the capillaries. Owing probably to embolism, certain acini were found to be in a very degenerate condition; whilst others, near them, remained almost unchanged. In all cases there was some exudation in the portal spaces. The hepatic cells showed signs of more or less fatty degeneration, and in one instance there was a remarkable segmentation of their protoplasm. In the kidney, micrococci were almost constant; their favourite seat was in the capillaries surrounding the straight tubules in the upper part of the Malpighian pyramids. The glomeruli undergo great changes, described very minutely in the report, together with some original observations on peculiarities in the epithelial lining of the uriniferous tubules. Micrococci were found in the substance of the valves of the heart, and in vegetations from those valves, in two cases of ulcerative endocarditis. In the lung, thrombi, plugging the veins and filled with micrococci, were observed; and in one instance, the wall of the vessel being ruptured, blood had become extravasated with micrococci into surrounding structures.

To this report are added two valuable statistical appendices, and two, consisting of "notes," or rather of records *in extenso*, of the microscopical examination of the blood during life, and the pathological histology of blood-poisoning. Drs. Ralfe and Greenfield, Messrs. Beck and McCarthy, deserve the thanks of the profession for having brought together such a mass of valuable facts in relation to one of the gravest classes of diseases with which the surgeon has to deal. We must continue to sympathize with these gentlemen, as we have done before, in lamenting, as they do, the absence of a uniform methodical system of registration throughout the various metropolitan hospitals. Until this is effected, the profession will not be perfectly free from Bacon's reproach. "The direction of future judgments," as he would have said, is not promoted by the neglect, at some institutions, of recording details which, at others, are carefully saved from oblivion.—*British Medical Journal*, Jan. 24, 1880.

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Retinal Changes in Kidney Disease.

The frequency with which retinal changes are found in kidney disease has been variously stated by different authorities. Earlier statistics were based on affection of vision, and the frequency assigned was altogether too low, while some ophthalmic surgeons, seeing cases only in which sight was impaired, have thought that retinal changes were almost invariable. WAGNER found albuminuric retinitis in 9 per cent. of the cases, GALEZOWSKI in 33 per cent., and LAUDOUZY in almost every case. It is, however, well known that the frequency with which retinal changes occur varies much in different forms of kidney disease, and it is, therefore, desirable that in observations which are made, the forms of kidney disease should be distinguished. This has been done by Mr. EALES, of Birmingham, who in an interesting communication to the current number of the *Birmingham Medical Review*, has described an investigation of the state of the retina in

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one hundred cases of granular kidney, the primary object being to determine the percentage of cases in which retinal changes are present. For the diagnosis of the renal disease in every case Dr. Saundby was responsible. The results contained confirm nearly the statement of Galezowski, alterations being found in one-third of the cases. They confirm also the fallacy of taking sight as the test of retinal integrity. In forty-six cases inquiries were made as to the state of vision before atropine was instilled; in twenty-eight of these complaint of bad sight was made, but in only six (that is, a little more than one in five) could any obvious abnormal condition be discovered in the retina; while in eighteen persons, who stated that their sight was good, retinal changes, such as specks, were found in five. The frequency with which considerable retinal changes do not materially impair sight is shown by six cases in which vision was carefully ascertained by test-types and lenses, and found, even with dilated pupils, to be nearly normal, and yet in all considerable changes were found in the retina.

The number of cases in which some abnormal change was found in the retina was twenty-eight, in twelve of which the changes existed in both eyes, while in sixteen they existed in one eye only. Observers have usually described the changes as bilateral, and Mr. Eales thinks that his observations can only be reconciled with those of others by supposing that the affection often attacks one eye before the other, and that it gets well in one eye before the other. In the twelve cases in which changes were found in both eyes, four had diffuse retinitis, with "fibrinous" patches and œdema, and also whitish glistening patches; one had diffuse retinitis in one eye, with only one hemorrhage in the other eye; five had many whitish round patches, "of the atrophic kind," and two had only similar small patches. Of the sixteen cases in which changes were found only in one eye, in six several white round patches were found, in five one or two spots only; in one there was a single hemorrhage near the disk; in two a few black specks were found, associated in one case with white specks, the black being in the centre of the white speck. In addition to these twenty-eight cases of retinal change, three others presented slight changes in the papilla, commencing or subsiding neuritis. In fourteen cases opacity of the lens existed, double and incipient in eleven cases, single in three cases. The presence of these alterations bore some relation to the amount of albumen in the urine, and one in every two patients with constipated bowels presented retinal changes, while such changes were found only in one in every six with open bowels.—*Lancet*, Jan. 31, 1880.

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On the Surgical Treatment of Intestinal Obstruction.

A recent discussion at the Society of Surgery of Paris between MM. Terrier, Duplay, Polaillon, Tillaux, L. Le Fort, Ledentu, and Trélat, turned upon the subject of intestinal occlusion and its treatment. This subject has been so recently discussed by English surgeons, that it will be a matter of interest to summarize the recent opinions of the younger school of French surgeons. M. TILLAUX observed that the surgery of the abdomen is undergoing, at the present time, transformation. "I am convinced," he said, "that if M. Nélaton had taken part in the present movement in surgery, if he had seen the abdomen opened with the security that now belongs to this operation, he would have accepted gastrotomy. Enterotomy" (formation of artificial anus), he added, "is not a rational operation." Up to this time, enterotomy has been considered as a true benefaction. It was the only admissible operation against internal strangulation. However, the idea of performing laparotomy, *i. e.*, largely opening the abdomen, and of searching for the seat of strangulation, is not new. M. Le Fort, with his well-known erudition, reports cases of Bonnet (1700), of

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Nuck, and Dupuytren in 1817, who did a gastrotomy, or rather a laparotomy, for intestinal strangulation on a patient in the wards of Récamier. Since then, this operation has been performed a great number of times. Adelmann, in 1863, reported thirty-three operations of laparotomy, practised for various causes. There were fourteen cures, and nineteen deaths. Ashhurst, in 1874, gave more complete statistics, and classed amongst them cases of invagination. Thirteen operations gave five cures, and eight deaths. To these cases, M. Le Fort adds those of Miller, who cured a child of seven months by laparotomy; also those of Hutchinson and of Fagge.

In a thesis supported before the faculty in 1872, Dr. Delaporte, a pupil of M. Boinet, affirmed that laparotomy was far from being such a dangerous operation as had been hitherto alleged, and he reported fourteen cases giving a proportion of eight cures, that is, 57 per cent. M. Bulteau has collected, in a recent *Thèse de Paris*, 92 cases of intestinal occlusion, in which laparotomy had been practised. An analysis of these 92 cases gives the following results. 1. In ninety-two operations of laparotomy, there were thirty-three cures and sixty-nine deaths, that is, 36 per cent. of cures. 2. In twenty-one operations of laparotomy in cases of invagination, there were eight cures and thirteen deaths, or 38 per cent. of cures. 3. In seventy-one operations of laparotomy in all kinds of occlusion other than invagination, there were twenty-five cures and forty-six deaths, that is, 35 per cent. of cures. These statistics have only a relative value. Those of M. Bulteau are incontestably in favour of laparotomy. Equally satisfactory statistics are required in the case of enterotomy and artificial anus. In six patients, Nélaton had two successes. M. Ledentu says, that in four operations he had three deaths, M. Polaillon has practised enterotomy five times on the method of Littré. All cases proved rapidly fatal, with the exception of one which lived fifteen days. In six cases, M. Tillaux had only one success, in a cancerous patient. Statistics are entirely wanting to enable us to compare the respective value of enterotomy and laparotomy. However, it seems from the interesting discussion which has just taken place in the Société de Chirurgie, that all surgeons are agreed that, in certain cases, laparotomy is to be preferred.

These are the reasons which M. Le Fort gives. "We do not possess, or at least I do not know of, statistics of operations of colotomy; but, from what I have seen of my own practice and in the practice of my masters and my colleagues, I think that cure by colotomy is exceedingly rare. I have lost all my own cases; and M. Verneuil, whose practice is more extensive than mine, tells me that he has not a single case of cure. Further, enterotomy, though it may relieve the patient in allowing evacuation by the upper end of the intestine, does nothing to cure the disease. The structure, or invagination, or the volvulus, still exists; and if the intestine is much strangulated—and if, therefore, its vitality is much compromised—one may be quite certain that peritonitis will ultimately prove fatal to the patient. Enterotomy causes the intestine to be wounded, which laparotomy avoids; and, considering the susceptibility of the visceral peritoneum, particularly the intestinal peritoneum, which is extremely vascular, to peritonitis, it being much more irritable than the parietal peritoneum, the fear of an error in diagnosis should make one hesitate to perform enterotomy; but if the surgeon has, at the moment of operation, reason to regret having made an error in diagnosis, this error is irreparable if enterotomy is performed. Laparotomy, on the other hand, permits one to recognize the error, and thereby prevents useless interference."

M. Ledentu said: "The real advantage of laparotomy is, that if it succeeds the course of the fecal matters is re-established, whilst enterotomy exposes the patient to a persistent and most painful infirmity. If, however, after this

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latter operation, the intestine is reopened, how many times can one count upon this result? No one can say. To enable one to interfere at the right moment, laparotomy is a resource much more rational, and perhaps less perilous than the purgatives with which one ordinarily tries to overcome internal strangulation."

M. Lucas-Championnière went further. He said: "The operation is excellent; we have only to discuss the right opportunity for laparotomy; we must reject the operations which penetrate the lateral walls through the muscles, as much the more complicated; and though laparotomy may present serious difficulties they are not insurmountable by the surgeon, particularly the escape of the distended intestinal loops."

In reply to the question in what cases laparotomy should be employed, M. Bulteau replies as follows. 1. In all cases of acute intestinal occlusion, as soon as the ordinary medical means employed have failed, gastrotomy should be practised. The nearer gastrotomy is to the commencement of the accidents, the greater is the chance of success. 2. In chronic intestinal occlusion, sometimes gastrotomy, sometimes enterotomy, and sometimes lumbar colotomy should be employed. (*a*) Gastrotomy should be practised in cases of chronic intestinal invagination, when insufflations of air, injections of water, and the application of electricity have not been able to reduce the intestine. To reduce invagination, which is often difficult, the method of Hutchinson should be employed. According to him, "the lower part of the invagination should always first be sought for, and the reduction attempted by squeezing the intestine, or by pulling at the invaginating portion rather than by seeking to directly extricate the invaginated loop." (*b*) In occlusion of the large intestine, if the precise seat of the obstacle be not known, cæcal enterotomy should be performed. (*c*) If the examination of the patient allow one to determine that the seat of occlusion is in the course of the sigmoid flexure, and of the rectum, Littré's operation of enterotomy should be practised in the left groin, or better still, lumbar colotomy of Amussat. (*d*) In all the other varieties of chronic occlusion of the intestines, Nélaton's enterotomy should be performed in the right iliac fossa.

What method of laparotomy should be employed? Methods vary. M. Parisse, of Lille, makes his incision in the right iliac fossa for two reasons; first, because it is by visual examination that one has the best chance of meeting with the strangulation; secondly, because one finds in the right iliac fossa a landmark which is certain and easy of recognition—the cæcum. Other surgeons make a very large incision in the linea alba. By this method, one is not at all interfered with by intestines, even when distended, in the search for the seat of obstruction. "One is struck," said M. Lucas-Championnière, "with the facility with which the search is made. In both operations, it is the cæcum by which the surgeon may guide himself, in the sometimes difficult search for the strangulated place. If the cæcum and the large intestine be collapsed, one will be sure that the obstacle is seated in the small intestine. On the contrary, if the cæcum and a part of the large intestine be distended by gas and fecal matters, one may be sure that the obstacle is seated at some point of the large intestine." "The surgeon may, therefore," says M. Bulteau, "determine the seat of the obstacle as soon as the belly is opened, without, so to speak, touching the intestinal mass." If the cæcum and large intestine be collapsed, the surgeon should examine the right iliac fossa and the inferior extremity of the ileum, starting from the point at which this intestine opens into the cæcum; he will arrive inevitably and rapidly at the seat of the obstacle by continuing his search along the small intestine. The statistics of intestinal occlusion show in a palpable manner that, in the cases of occlusion of the small intestine, the obstacle is seated almost always in the right iliac fossa, and almost always in the lower part of the ileum. The

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surgeon, by examining first the right iliac fossa, has, therefore, a great chance of rapidly meeting with the obstacle which he wishes to remove. If the cæcum be distended by gas, the surgeon must then examine the ascending colon, the transverse colon, etc. It is in the large intestine, in fact, that the obstacle is seated, and his examination should be limited to that organ.

The seat of the obstacle to the passage of fecal matters once found, the state of the intestine must be examined. When the intestine is only congested and appears healthy, it may be left in the abdominal cavity, after the strangulation has been removed and the wound sutured; on the other hand, if the intestine be perforated or gangrenous at the point at which the strangulation is seated, an artificial anus should be established. The success of the operation depends largely on the rigorous cleanliness observed by the surgeon. The antiseptic method should be employed in all its exactness, and the same precautions of bandaging as those for ovariotomy.

M. Lucas-Championnière insists greatly on the necessity of opening the belly largely in the median line. The incision in the right iliac fossa, in fact, is too restricted to permit the surgeon to explore sufficiently the cavity of the peritoneum and to remove the obstacle to the course of the intestinal contents. The incision in the linea alba has the advantage of permitting the recognition of the obstacle, whatever be its seat. For the rest, it is well known how difficult it is to determine beforehand the precise seat of the obstruction. [See also Duplay on Enterotomy and Laparotomy, *Archives Générales*, Dec. 1879.]—*London Med. Record*, Jan. 15, 1880.

The Value of Parallelism in the Treatment of Disease and Injuries of the Hip.

At a late meeting of the Medical Society of London (*Lancet*, Jan. 24, 1880), Mr. Thomas Bryant read a paper on the value of parallelism of the lower extremities in the treatment of hip-disease and hip-injuries, with the best means of maintaining it. The author first pointed out how it was that, in most of the deformities of the lower extremity following a natural recovery with a stiff joint after hip disease or injury, the deformity was due to a want of parallelism of the lower extremities, and then passed on to demonstrate, by means of a simple instrument he had constructed for the purpose, that, as a rule, in such cases the deformity is produced by the *ad*duction of the affected limb. He conclusively demonstrated that when the hip-joint is fixed in an *ad*ducted position, and the patient attempts, for walking purposes, to bring the limb vertically downwards, the pelvis on the affected side is tilted upwards, and on the sound side downwards, with the result of increasing the shortening of the affected limb. On the other hand, when the anchylosed limb is *ab*ducted and the foot is brought down for the purpose of progression, the pelvic line on the diseased side is lowered, and the affected limb is merely apparently elongated; apparent lengthening of the diseased limb in hip disease meaning its *ab*duction, and apparent shortening its *ad*duction. Under these circumstances it is clear that only by maintaining parallelism of the two limbs in such cases can deformity be prevented. For this purpose the use of the double splint, which he has had slowly built up under his eye at Guy's, was strongly recommended, for he maintained (1) that it is far more comfortable to the wearer than any other he had used or seen used; (2) that it most thoroughly immobilizes the limb to which it is applied; (3) it keeps up well-regulated, steady, and persistent elastic extension; and (4) maintains absolute parallelism of the lower extremities. In children with acute hip disease, the splint, when well applied, so securely guards against joint movement that the nurse may turn the child over on to the sound side for the purposes of cleanliness,

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and lift him for the performance of the natural functions, with freedom and confidence. In cases of fracture of the neck of the femur or shaft, the same principle is applicable and the same splint of value; in proof of which the author stated that thirty consecutive cases of fracture of the neck of the thigh bone, occurring in patients averaging seventy-four years of age, left his wards with useful limbs; and that out of forty consecutive cases of fracture of the shaft of the femur, in only four, or one in ten, was there any important shortening, such as an inch. In twenty of the remainder there was no shortening, and in eighteen there was less than half an inch.

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Subastragaloid Dislocation.

At a late meeting of the Clinical Society of London Mr. PICK read notes of a case of subastragaloid dislocation. A gentleman fell off the roof of an outhouse, and caught his foot in falling. When seen, the foot was so twisted that the sole looked outwards, whilst the astragalus formed a marked prominence below the inner malleolus beneath the tightly-stretched skin; the os calcis projected beyond the outer malleolus, and the lower end of the fibula was prominent. It seemed that the os calcis and scaphoid had been displaced outwards and backwards. Attempts at reduction under chloroform, and after division of the tendo Achillis and peronei tendons, failed. Much force was used, the foot was brought more into the natural position, but still the relative positions of the os calcis and astragalus remained unaltered. Subcutaneous injection of morphia, and chloroform inhalations were had recourse to for the relief of the severe pain experienced. The next day, in consultation with Sir J. Paget, Mr. P. Hewett, Mr. Henry Lee, and Mr. Gage Brown, another attempt at reduction was made under chloroform. At Mr. Lee's suggestion a bandage was placed round the forepart of the foot, and by this means Mr. Lee made extension forwards, whilst Mr. Pick made lateral movements. The attempt was successful, and, with the exception of a superficial sloughing of skin, where it had been so much stretched, the case made an uninterrupted recovery. It is now three years since the accident, and, beyond a slight limp, there is nothing perceptible in the limb. The contour of the foot is perfect. Mr. Pick then described what he thought to have been the condition in this case. He had seen similar dislocations reduced by slight extension, but in the majority of cases reduction was very difficult, owing partly to the tibial tendons being caught behind the astragalus, but mainly to the interlocking of the bones. The foot is thus displaced backwards, and also laterally. Mr. Hancock had shown the value of forward extension, with the bones of the leg fixed, in the reduction of such dislocations.

Mr. BRYANT said this was an interesting example of a rare form of injury, and he agreed with the author as to the great difficulty of reduction in such cases. In a case he met with some time ago he concluded that the difficulty was due to the cause pointed out by Mr. Pick—viz., that the posterior edge of the astragalus was caught between the articular facets of the os calcis. It was not until he read Mr. MacCormac's paper in St. Thomas's Hospital Reports that he saw these cases of so-called "dislocation of the astragalus" in their true light. Mr. Lee's ingenious mode of reduction favoured the anatomical explanation given.

Mr. H. LEE pointed out that in literature, especially French, such dislocation was regarded as a very formidable affair, calling for amputation or excision, or the retention of a useless foot. The whole of the foot was carried outwards; the sole was turned directly outwards. He had thought much about the reasons of failure on the first attempt at reduction, and, taking this with other cases, he concluded that, with the exception of Mr. Hancock's case, the failure lay in the fact that extension had not been made in the right direction. It had been made

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parallel to the axis of the limb; but as there were two displacements to deal with, viz., that of the os calcis from under the astragalus, and that of the scaphoid also, he concluded that traction of the scaphoid *forwards*, and not downwards, was the right course to pursue.—*Lancet*, Jan. 31, 1880.

Hyperostoses Consecutive on Obstinate Ulcers of the Leg.

Dr. PAUL RECLUS publishes a careful study (*Progrès Médical*, December 20, 1879) based on the observation of cases. His conclusions are these. 1. Ulcers of the leg may give rise to divers forms of osteo-periostitis in the subjacent bones. Exceptionally destructive, the inflammation most frequently determines increase of volume; the bone is then light and spongy, covered with osteophytes. In very rare cases, the tissue of the diaphysis is hard and eburnated, the medullary canal obliterated or narrowed. 2. When the epiphyses are not yet joined, the bone increases in length, and may exceed its fellow by from 2 to 3 centimetres (¾ to 1¼ inch). The osteophytes are more abundant. A vertical osseous diathesis may manifest itself, which shows itself by the ossification of the aponeuroses of the ligaments of the vascular and nervous sheaths; in a word, of all the fibrous tissues of the leg. 3. From the centre of the ulcer sometimes arise prominent exostoses. These have been taken for syphilitic lesions, but the consistence of the tumour and specific treatment will establish the diagnosis. 4. Osteo-periostitis is a grave complication. It is inimical to the cicatrization of ulcers, compromises the nutrition of the limb, and very often renders amputation necessary.—*Lond. Med. Record*, Feb. 15, 1880.

Midwifery and Gynæcology.

The Kidney Diseases of Pregnancy.

Dr. R. MÖRICKE (*Zeitschrift für Gebertshülfe und Gynäkologie*, Bd. v. Heft 1) considers that venous stasis is the beginning, the chief etiological fact, of most cases of nephritis during pregnancy; but he does not deny that other causes of this disease may act during pregnancy as well as at any other time. He has made careful and repeated examinations of the urine of pregnant women, before and after labour, taking especial note of the presence and amount (as the most trustworthy signs of kidney disease) of albumen and of casts. He finds that as a rule the urine passed before delivery, even though it contain albumen, yet shows few, if any, casts. The first urine passed after delivery contains, on the contrary, casts extraordinary in size and number. The author thinks that a sudden change in the circulation is the only agency which could produce so rapid and great an effect. The albumen and casts disappear surprisingly soon, being sometimes completely gone on the second day. Out of twenty pregnant women whose urine the author examined, albumen was present in one; and out of one hundred women in labour, thirty-seven had albuminous urine, and in thirteen there were casts. In support of his view, that the kidney affection is due to venous congestion, the author adduces the facts that albuminuria is disproportionately frequent in first pregnancies and in twin pregnancies, and that it is usually only met with in the later months; that it rapidly disappears when the uterus is emptied; that in pregnancy there is obstruction to the return of venous blood, shown by the occurrence of varicose veins and œdema of the legs; that it is shown by experiments on animals, that such venous congestion is adequate to produce albuminuria, and also by its occurrence in diseases such as valvular incompetence, emphysema, etc., in which there is obstruction to the venous circu-

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lation; and he considers that the peculiar condition of the blood in pregnancy is such as to favour the passing of the changes due to venous congestion into those of inflammation. To the objection raised, that large tumours are found in the abdomen without albuminuria, the author replies, that albuminuria is often met with in such cases. To the objection that it is impossible for the pregnant uterus to press on the renal veins, he answers that it is not necessary for it to press on them directly; its bulk raises the intra-abdominal pressure, and thus hinders the return of blood. The argument that albuminuria is sometimes met with in the early months of pregnancy, the author meets by stating that he does not assert venous congestion to be the only cause. The theory that the liability to nephritis is due to increased renal function, he rejects on the grounds that there is no evidence of such liability where one kidney is absent, or has been rendered useless, and extra work is thrown on the other; nor is there in diabetes. The view of Spiegelberg, that nephritis in pregnancy is due to a reflex action on the vasomotor nerves of the kidney, Dr. Möricke looks upon as a pure hypothesis.—*Obstetrical Journal of Great Britain*, Jan. 15, 1880.

Puerperal Malarial Fever.

At a late meeting of the Medical Society of the County of New York (*Med. Record*, Feb. 7, 1880) Dr. FORDYCE BARKER read a paper on the above subject, of which the following is an abstract: Although the title of the paper has not yet been added to the nomenclature of diseases in medical literature, it is so descriptive of the etiology, pathology, and clinical phenomena of a class of affections which of late years had been so frequently met with in puerperal women in New York and its vicinity, that he employed it. The author of the paper then presented the character of the disease, its pathology, its differential diagnosis, and its treatment. By the kindness of medical gentlemen who had furnished him with complete notes of cases which he had seen with them in consultation, and from those in his own private practice, he had the records of seventeen cases, and of these he gave a summary of the aggregate results and the conclusions to which he had arrived.

Puerperal malarial fever might make its invasion at any period following parturition, until the physiological changes which constitute puerperal convalescence were completed. The earliest development occurred in less than twenty-four hours after entirely normal parturition. The history of a case which occurred in the practice of Dr. Howard Pinkney was then given. The latest period of invasion was in one of his own patients, who had a normal labour in every respect, and her convalescence was so complete that he had begun to make weekly visits only. The details of the case were reported. The most prominent *symptoms* were chills, sometimes very slight, a temperature higher by one or two degrees, frequently, than was found in the beginning of any other puerperal disease, rapid pulse, greater prostration than was usual with other diseases during this period. After such an explosion, there was a remarkable remission on the following day, but the alarming symptoms returned after one, two, or three days, yet usually less severe, only typical cases, presented such a succession of phenomena. Dr. Barker was disposed to believe that in the majority of cases the patient, three or four days after the explosion, finds herself suffering from a general sense of malaise, more or less of pain in the back, head, and bones, thirst, loss of appetite, insomnia; and when the disease was developed the chills were less severe, the pulse less rapid, the temperature not so high, and the remissions less marked; and he was also of the opinion that in such cases the disease was more persistent and responded less readily to treatment. In puerperal malarial fever a fall of temperature three or four degrees was always attended with a corresponding decline of

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other symptoms, which is not the fact in septicæmia, and the latter is rarely accompanied with pain in the head, back, and limbs. He thought that a competent and intelligent observer would not be likely to mistake the affection, when developed six or eight days after confinement, for pyæmia, even though it was developed late during the puerperal period. Puerperal fever usually appeared between the first and the third day after delivery, and very rarely after the fifth day, while the chills were not recurrent, nor were there marked remissions of the symptoms. Malarial fever may be developed during the progress of any of the local phlegmasia, or may be complicated by them. In five cases, secondary hemorrhage occurred after the twelfth day, apparently as the result of the malarial fever. One of these has already been reported by Dr. H. T. Hanks. In one case, three days after the hemorrhage, purpura was developed, and there was some oozing of blood from the nasal and buccal mucous membranes. In four of the cases seen in consultation the chief reason why he was called was that the patient was supposed to have puerperal mania. The details of a case seen in consultation with Dr. Barker, of Jamaica, L. I., were then given. But one of the seventeen cases had terminated fatally, and that was in the practice of Dr. William H. Hall. The patient died on the forty-seventh day after confinement. The history of the case was given. The author of the paper did not dwell upon the treatment, for the reason that the treatment of malarial fever is so well settled, and every physician of intelligence and sound practical sense appreciates the necessity for and the kind of auxiliary measures which the symptoms peculiar to each case may require. He had found Warburg's tincture much more effective and speedy in producing the results desired than the largest doses of quinia. His method was to give it in half-ounce doses every four hours until the fever had entirely abated, and then continuing it in gradually diminishing doses until convalescence is perfectly established. On the least threatening of a recurrence a full dose should at once be administered. The tolerance of quinia in these cases is very remarkable. One patient received 80 grains hypodermically within twenty-four hours, and yet no symptom of cinchonism was produced. When given by the mouth it is usually combined with bromide of potassium, to prevent or modify the cinchonism.

Dr. S. S. JONES remarked that it had been his fortune to see a great deal of malarial fever in puerperal women within the last two or three years, and some of the cases had been exceedingly persistent and difficult to treat. There was one feature not noticed by the author of the paper, and that was the fact that septicæmia can occur after the onset of malarial fever in the puerperal condition, and that it may be the occasion of elevation of temperature without remission for several days, thus accounting for the fact that quinia does not produce its effect as quick as it usually does in pure malarial fever. It had been his habit to give, living as he did in a malarious district, a dose of quinia on the day following the confinement. In those cases in which fever does not subside after the exhibition of a full dose of quinia, it had been his habit to cleanse the uterine cavity, and in one or two cases he thought he had almost demonstrated that the cleansing of the uterine cavity was the turning-point in saving the patient's life. A case was related. Twenty grains of quinia were given after confinement, and ten grains daily until the sixth day. The patient was doing well, and the quinia was omitted. On the seventh day a violent chill came on, the temperature rose to 104° F., and in spite of large doses of quinia—45 grains in 12 hours—and thorough cinchonism, the fever and chills continued for three days. The cavity of the uterus was then cleansed by means of a probe and cotton, and the next morning, without the administration of quinia, the temperature was 103° F.; twelve hours afterward 102° F. The uterine cavity was cleansed three times, and the patient made a good recovery. The quinia was continued in the treatment, but not in very large quantity.

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In a case of placenta prævia, the temperature, after delivery, rose to 104° F. It yielded to quinia, but the elevation returned, and symptoms of septicæmia followed. The case was treated by cleansing the uterine cavity, in addition to the use of quinia. The point to which he wished to direct especial attention was that when the elevation of temperature persisted in spite of the use of quinia, although there may be no tenderness of the abdomen, and many of the ordinary symptoms of septicæmia may be wanting, we should cleanse the uterine cavity, and not take it for granted that it is not a case of septicæmia.

Dr. Wm. T. Lusk remarked that he had not had any personal experience in cases corresponding to the severer form of malarial manifestation in puerperal women, described by Dr. Barker; yet ever since Dr. Barnes read his paper before the American Gynæcological Society, drawing attention to the fact that women living in a malarious region were subject to severe attacks of malarial fever immediately after confinement, his attention had been turned in that direction, and he had watched such cases with a great deal of interest. Within the last three months he had had three cases of the milder manifestations of malarial poisoning after confinement; chill, high fever, profuse perspiration, and all yielded readily to quinia. He regretted that post-mortem data had not been obtained regarding the severer forms. He thought that in some of the cases described by Dr. Barker septic symptoms were superadded, and aided in making them exceptionally severe. In the Maternity Hospital, when the report was made by the House Staff that some of the women had severe chills and high fever, followed by profuse perspiration, and that yielded readily to quinia, he always knew that it was only the forerunner of something more serious, and therefore a warning. If the women were not removed, peritonitis and cellulitis began to appear in other cases; and if still the warning was not heeded, there came an outbreak of puerperal fever. He could not but think that, at the bottom of the severe cases at least, there was some other poison than malaria, differing only in intensity, perhaps in the manner in which it enters the system, rather than in the quality and character of the poison itself, and capable of producing puerperal fever. He thought we should be on the alert in making a distinction between this form of poison and that which produces true malarial puerperal fever.

Dr. Barker suggested that it was not convenient to obtain post-mortem data unless patients die. Only one of the seventeen cases he had seen had terminated fatally, and in that one the question of septicæmia was thoroughly discussed by Dr. Hall, Dr. Thomas, Dr. Metcalf, and himself, and all were unanimous that there was not the slightest ground for suspecting septicæmia.

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Origin and Prophylaxis of Sore Nipples.

Professor Kehrer, of Giessen, considers (*Beitrag zur klin. und experimentellen Geburtsh. und Gynäkologie*, Bd. ii. Heft 1) a knowledge of the mechanism of sucking to be necessary to the proper understanding of the mode of production of sore nipples. First, the nipple is seized and drawn into the mouth, without, if the tongue is of normal length, the lower jaw touching the nipple. Second, the nipple again becomes shorter, and is drawn back out of the mouth. The well-known lesions of the nipple (chaps, etc.) result from the squeezing of the nipple between the jaws, its rubbing against the hard gums, and its being wetted with milk, and with the secretions of the mouth. The author considers, and etiologically differentiates, vesicular excoriations, semicircular lateral ulcers, erosions at the summit of the nipple, fissures, etc. The conditions upon which the origin of such depends are the power, frequency, and duration of sucking, and the physical peculiarities of the nipple. According to most authors, primiparæ are more liable to these affections; and Kehrer does not agree with Winckel,

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according to whom fissures are found as often in pluriparæ as in primiparæ. He has sifted his data, taken from lying-in women both in town and country, and gives for each the number of children born, the number of children suckled, the frequency of fissures, and of inflammation of the breast. He finds that these breast affections are so frequent that half of all women in some confinement suffer from them. Breast affections, especially chaps, are 20 per cent. more frequent in town than in country patients. They are, of course, more frequent in first lactations; fissures being in these twice as frequent, and mastitis three times as frequent as in others. The greater liability of town patients to sore nipples results from their smaller quantity of milk, badly-developed nipples, thinner skin, greater vulnerability, etc. For prophylaxis the author recommends the improvement of the nutrition of suckling women, to produce more abundant milk, and the drawing out of the nipple during pregnancy, for which purpose the author supplies his midwives with a suitable glass. The early application of an India-rubber shield to the nipple is of especial importance. During 1877, out of 122 suckling women, 22.95 per cent. suffered from sore nipples; while in 1878, out of 103 who suckled from the beginning with nipple shields, only 6.6 suffered in the same way. The shields, however, should not in practice be used for every case from the beginning, but only where there are small flat nipples, irritable skins, etc. The author further recommends the application of compresses soaked in glycerine. He thinks that hardening of the nipple during pregnancy by astringent applications is of doubtful utility as a prophylactic.—*Obstetrical Journal of Great Britain*, Jan. 15, 1880.

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Condition of the Cervix in the Non-Pregnant Uterus.

Prof. BANDL contributes to the *Archiv für Gynäkologie*, Bd. xiv. S. 237, an interesting paper on this subject. After a somewhat prolonged historical review of opinions on the question of the relation of the lower uterine segment to the cervix uteri during pregnancy, the author proceeds to maintain that in the virgin uterus the cavity of the cervix, as indicated by the mucous membrane, extends much higher up than is the case with women who have borne children, being traceable to nearly the middle of the body of this organ; that during the first pregnancy the upper portion of that cervical cavity becomes gradually transformed into a portion of the body of the uterus, so as to amplify the lower uterine segment, its mucous membrane being changed into a true decidual membrane. Over this surface the ovum is adherent. In subsequent pregnancies the mucous membrane of this upper portion of the cervical cavity never regains the arrangement and characters of a cervical mucous membrane. According to Bandl, therefore, in the case of a woman who has borne children, what he calls the ring of Müller, which is ordinarily called the internal os uteri, is not the true internal os, but the lower extremity of this upper permanently transformed part of the cervix. The portion indicated is separated from the rest of the cavity of the body, he asserts, by a distinct narrowing of the uterine walls. According to Bandl, therefore, when the cervix is fully dilated during delivery, the cavity which is ordinarily represented by the fully dilated cervix, as in Braune's plates, is not that part of the uterus bounded superiorly by the ring of Müller and inferiorly by the outer os, but this together with the altered upper portion. He maintains that the original inner os may always be detected, in the case of a woman who has borne children, high up above the ring of Müller, and near the middle of the cavity of the body of the uterus. Some drawings are produced in support of this somewhat extraordinary view.—*Edinburgh Med. Journal*, Feb. 1880.

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Dilatation Instruments in Gynæcological Practice.

In No. 26, *Centralblatt für Gynäkologie* 1879, Prof. CARL SCHROEDER asks the question, "Are dilatation instruments necessary in gynæcological practice?" in reference especially to a paper in No. 25 of the same Journal by Fritsch, advocating rapid dilatation under chloroform with steel sounds of gradually increasing size, instead of sponge or tangle tents. Schroeder goes further, and would do away with dilatation in all cases. He proposes, in most cases where dilatation is ordinarily advised, to remove from the interior of the uterus, for examination, a small portion of the mucous membrane through the undilated cervix, by means of a sharp curette with appropriate long flexible handle. If found necessary, the hypertrophied mucous membrane may be entirely removed in this way. If it is really necessary to get the finger into the cavity of the uterus, Schroeder proposes to divide on both sides the vaginal portion of the cervix throughout its entire length, and then to pass the finger through the inner os, which in such cases is usually large, by forcible pressure of the index finger. Counter-extension is made either by pressure upon the fundus of the uterus, or by traction on the neck with a volsella. The incisions made in the vaginal portion of the cervix Schroeder unites by suture so soon as the necessary operative interference with the cavity of the uterus is effected. [It appears to us that few people will regard the advantages presented by the heroic methods either of Fritsch or of Schroeder superior to the ordinary method of slow dilatation by the use of tents.—A. M.]—*Edinburgh Med. Journal*, Feb. 1880.

Medical Jurisprudence and Toxicology.

Effects of Poisoning by Cantharidin.

M. V. CORNIL has recently made a series of investigations on the lesions of the kidney and bladder in rapid poisoning by cantharidin. He finds that cantharidin, the action of which is simultaneously manifested on other organs of the body, causes in the first instance in the kidney almost immediately after its introduction beneath the skin the diapedesis, or escape of both white and red corpuscles from the vessels constituting the glomeruli; and in addition, there appears an impregnation and swelling up of the cells lining the capsules of Malpighii, and of the *tubuli contorti*, by a liquid containing hematic granules. After a short space of time inflammation of the *tubuli recti* and collecting tubes is observed characterized by a modification of the form of their cells, which, instead of presenting their usual definite form, become variable or irregularly polyhedric, and this state is very general in the cells of other organs of the body. The bladder, after the first act of micturition, in which a large quantity of urine is discharged, and which occurs about fifteen or twenty minutes after the animal has been poisoned, remains contracted. Its surface is red, it contains a few drops of turbid urine with leucocytes, and very large cells, which may either be spherical or elongated and flat. An hour after the injection of the poison these large cells, which contain from two to eight or ten round nuclei, are either floating freely in the urine, or are adherent to the surface of the mucous membrane, and about to detach themselves from it. The elongated cells are irregular at their borders, and present rounded processes. Their protoplasm is granular, solid, homogeneous, stains yellow with picrocarmin, whilst the nuclei become red. Nuclei may also be seen about to divide, or several smaller nuclei may be seen near a larger one.—*Lancet*, Feb. 14, 1880.

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MEDICAL NEWS.

Colour-blindness among Railroad Employés.

The Massachusetts Railroad Commissioners, in their Annual Report, consider the subject of colour-blindness among railroad employés, and the necessity of legislation on the subject. They state that in this country examinations have been made by many railroad companies since attention has been called to this subject. Dr. Keyser, of the Wills Hospital, Philadelphia, is reported as having examined all the employés on all the roads terminating in Philadelphia, except the Pennsylvania Railroad. His report was that 3½ per cent. "have defects of such a character as to make them really incapable and unsafe to fill the positions they occupy." He found, also, that an engine-man who was green-blind never mistakes as to the colour of signals. In Maine, an examination, heretofore referred to, was made on the Maine Central Railroad, with results not unlike those of Dr. Keyser.

The final conclusions of the Board of Commissioners are: 1. That the existence of colour-blindness, total and partial, is a well-established fact, and that there are men who, by reason of such defect, are unfit for positions on railroads requiring ability to distinguish colour signals. 2. That the extent of dangerous colour-blindness, *i. e.*, such colour-blindness as unfits persons for railroad employment, has been greatly exaggerated, and that a very small per cent. of persons are, for this reason, unfit for such employment. 3. That examination may be properly made by persons not medical experts; and that such examinations will certainly be sufficient, if doubtful cases are referred to such experts. 4. The Board recommends that every railroad company shall have an annual examination of every employé whose duties require or may require capacity to distinguish form or colour-signals, and that no one shall be so employed who has not been thus examined. The examination should refer to colour-blindness, and to other defects in vision. It should include all who are in any way concerned in the movement of trains.

The Board does not recommend any legislation on the subject, believing that self-interest will make railroad managers careful to have examinations as to colour-blindness among employés made, so as to avoid even false charges that accidents have resulted from the existence of such defects.

Dr. B. Joy Jeffries has recently appeared before the Railroad Committee of the Massachusetts House of Representatives in opposition to the conclusion of the Commissioners that the testing for colour-blindness among railway employés may be safely entrusted to a non-medical man, and showed in great detail how laymen might be easily misled in making these examinations. He stated that in Europe railroad officials were first directed to make these examinations, and had utterly failed in finding who were and who were not colour-blind or had defective vision; and he read letters from Prof. Donders and Prof. Holmgren strongly urging that medical experts only could be safely employed in testing colour perception and acuteness of vision.

Rapid Cure for a Cold.—R. Rudolf reports, in the *Gazetta Medicin Italiana*, the following observation made on himself. Being seized with a severe coryza,

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he happened to chew one or two twigs of eucalyptus, at the same time swallowing the saliva secreted, which had a bitter and aromatic flavour. To his surprise he found that, in the course of half an hour, the nasal catarrh had disappeared. Some days latter, he was seized with another attack from a fresh exposure to cold, when the same treatment was followed by an equally fortunate result. He then prescribed the remedy to several of his patients, all of whom were benefited in the same way. He believes that this treatment is only suitable in acute cases.—*Brit. Med. Journ.*, Jan. 24, 1880.

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Bigelow's Operation for Stone.

In a recent number of the *Lancet* (Jan. 10, 1880) Mr. THOMAS SMITH, Surgeon to St. Bartholomew's Hospital, publishes an abstract of a clinical lecture on litholapaxy in which he says of this operation, that it "is a new one, founded on principles different from those which have hitherto guided us in the performance of lithotrity, and it is possible, or, rather, highly probable, that it will entirely reform our practice in the treatment of stone in adults." In proof of the statement that it is new in principle he offers several quotations from Sir Henry Thompson's recent writings.

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Graduates in Medicine in 1880.

Jefferson Medical College, Philadelphia	196
University of Pennsylvania	111
Bellevue Hospital Medical College, N. Y.	142
University of the City of New York	200
University of Buffalo	56
Medical College of Ohio (Cincinnati)	121
Miami Medical College (Cincinnati)	48
Cincinnati College of Medicine and Surgery	27
Columbus (Ohio) Medical College	41
Rush Medical College, Chicago	144
Detroit Medical College	27
St. Louis Medical College	41
University of Louisville	95
Louisville Medical College	56
Hospital School of Medicine (Louisville)	33
Nashville Medical College	67

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Boracic Acid in Eye Inflammations.

Dr. SAMUEL THEOBALD, of Baltimore, recommends (*Med. Record*, Feb. 7, 1880) the use of a solution of boracic acid (two to four grains to the ounce) in conjunctival inflammations.

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Who Founded the National Medical Library?—For many years there was a small collection of medical books and journals in the Surgeon-General's office at Washington, which collection was commenced by Surgeon-General Lovell prior to 1836. At the commencement of the War it amounted to between 300 and 400 volumes. During the period of sixteen months ending Aug. 30, 1863, that Dr. Hammond was Surgeon-General, 359 volumes were purchased for the use of the office, the principal works being sets of two journals. During the years 1864 and 1865 about 1000 volumes were purchased, mainly works selected by Drs. Woodward and Otis. When the library came under the charge of Dr. Billings, in the autumn of 1865, it contained about 1800 volumes. At present,

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under the intelligent and energetic management of the librarian, Dr. Billings, it contains about 50,000 volumes and 60,000 pamphlets.

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Meetings of State Medical Societies.—The following State Medical Societies will hold their annual meetings next month:—

Kentucky State Medical Society, at Lexington, May 4th.
Kansas State Medical Society, at Leavenworth, May 11th.
Michigan State Medical Society, at Grand Rapids, May 12th.
Illinois State Medical Society, at Belleville, May 18th.
Indiana State Medical Society, May 18th.
Missouri State Medical Society, at Carthage, May 18th.
Pennsylvania State Medical Society, at Altoona, May 19th.
New Jersey State Medical Society, at Princeton, May 25th.

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National Convention for Revising the U. S. Pharmacopœia.—This Convention will meet at Washington on the 5th of May.

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Sanitary Convention.—The National Board of Health requests all quarantine authorities of the United States to send authorized representatives to meet with it in Washington on the 6th of May next, for the purpose of amending the rules and regulations prepared by the Board last year and recommended by it to State and local quarantine authorities for adoption.

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A Substitute for the German "Sapo Viridis."—Dr. GEO. HENRY FOX recommends (*Med. Record*, Feb. 14, 1880), as a substitute for the German "green soap," a soft olive soap used extensively in the manufacture of silk and other delicate fabrics. This he has tried and found to be a similar, though a far more elegant article than the ordinary sapo viridis. It is made from cold-pressed olive-oil, and owes its green colour entirely to the chlorophyl of the olive. As manufactured by Mr. Bagoe, Pharmacist, of New York, it is of unvarying alkalinity, wholly free from unpleasant odour, homogeneous, and, unlike the common green soap, it gives a perfectly clear solution with strong or dilute alcohol. He has found it advantageous to add to the soap a small percentage of glycerine, which, while counterbalancing the natural loss of free water, renders it a most agreeable preparation. The name "Sapo Olivæ Præparatus" is recommended for this soap.

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The French Codex.—The Minister of Public Instruction has designated a commission, with M. Gavarret as President, to revise and publish a new edition of the French Pharmacopœia. The last edition was published in 1867.

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Naval Board.—The Naval Medical Board of Examiners, which during the past seven or eight years has held its sessions in Washington, has been transferred back to the Naval Hospital at Philadelphia.

It consists of Medical Directors Edward Shippen (President) and George Peck, and Surgeons Newton L. Bates and Thomas N. Penrose. It convened March 1st to examine candidates for promotion and for admission.

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Test Pellets.—Dr. PAVY recently introduced to the notice of the London Clinical Society a new form of test for sugar. He considered the cupric test by far the most reliable, and this view stood in accord with that which was generally entertained by analytical chemists. It had been hitherto the practice to employ

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the test in the form of a solution, prepared by mixing an alkaline tartrate with sulphate of copper and either potash or soda. When freshly prepared this solution fulfils all that can be desired; but there is the disadvantage belonging to it that, after being kept for some time, especially if exposed to light and air, it is liable, without the presence of sugar, to throw down a certain amount of reduced oxide on boiling, and thus possibly to mislead unless precautions are taken to provide against it. Dr. Pavy had long felt that it would be very desirable if the ingredients of the test could be incorporated and kept in a solid form; and some years ago he made a fruitless attempt to attain this object. Latterly he had given his attention afresh to the subject, and the test pellets shown were the result of this. They contained the solid ingredients of cupric test solution in a dry state, and they were brought into the condition of a coherent mass by compression. The preparation had been placed in the hands of Mr. Cooper, of Oxford Street, who most successfully met the difficulties that were unexpectedly encountered. There appeared no reason why the pellets should not keep for an indefinite time without undergoing change if preserved in a closed bottle away from moisture. In using them all that was necessary was to place one in a test-tube with about 3 cc., or rather under a drachm, of water, and to apply heat until complete solution had occurred. It formed a clear, deep-blue liquid, which actually constituted the cupric test solution. At present it was only as a qualitative test that the pellets were introduced, but there was no reason that hereafter the preparation should not be conducted with sufficient attention to accuracy of weighing to render them applicable for quantitative analysis.—*Lancet*, Jan. 31, 1880.

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Liability of Hospitals in Malpractice Suits.—The Supreme Court of Rhode Island, according to the *Maryland Med. Journal* (Dec. 1879), has recently decided that hospital corporations should be considered liable for failure to exercise reasonable care in selecting skilful, competent men as internes. This decision grows out of a case where suit for malpractice was instituted against a Rhode Island Charity Hospital, by a patient whose fingers were cut off by a circular saw. Hemorrhage was excessive, and was only controlled by the use of the tourniquet, which instrument was kept on for seventeen hours. The result was, the arm was amputated at the shoulder joint, the patient affirming that careless treatment, upon the part of the interne, had induced this result. The court directed the jury to give a verdict for the defendant, on the ground that a charity institution should not be made liable for negligence or unskilful treatment. The case was taken to the Supreme Court, with the above decision.

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Obituary Record.—At Dublin, on the 1st of February, aged 77, Sir Dominic John Corrigan, Bart., M.D., Physician-in-Ordinary to the Queen in Ireland.

Sir Dominic was the last representative of the great physicians and surgeons who, by their writings and oral teachings during the second and third quarters of this century, made the Dublin School of Medicine one of the most famous in Europe. His most meritorious writings were an article on Permanent Patency of the Aortic Valves, which led Trousseau to give to the disease the name of "Maladie de Corrigan," his description of Cirrhosis of the Lung, and his lectures on Fever.

—— On the 1st of March, at his residence near Baltimore, William Maxwell Wood, M.D., late Surgeon-General U. S. Navy. Dr. Wood was appointed Chief of the Bureau of Medicine and Surgery in 1870, and was retired the following year on account of age.

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THE

MEDICAL NEWS AND ABSTRACT.

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(For List of Contents see pp. 319-20.)

CLINICS.

Clinical Lectures.

ON THE TREATMENT OF THE VARIOUS FORMS OF CONSUMPTION,

DELIVERED AT JEFFERSON MEDICAL COLLEGE HOSPITAL.

BY ROBERTS BARTHOLOW, M.D., LL.D.,

PROF. OF MATERIA MEDICA AND THERAPEUTICS IN THE JEFFERSON MEDICAL COLLEGE, PHILA.

GENTLEMEN: We have had before us recently a number of typical examples of the different forms of phthisis; their distinctive clinical features have been pointed out, and details of the symptomatic treatment have been briefly indicated. It may be conducive to a clearer comprehension of this important topic if we now review the subject of the treatment as a whole, to ascertain how far the pathological conditions may guide and control the therapy, and to note the more recent contributions to our resources.

I will take it for granted, as generally believed, that there are three distinct forms of pulmonary consumption: Chronic, catarrhal, or caseous pneumonia, which is an essentially inflammatory disease; chronic tuberculosis, with special direction to the pulmonary parenchyma, which is a diathetic malady; and fibroid phthisis, which is a chronic interstitial pneumonia ingrafted on a chronic bronchitis. It must be obvious that if this classification has a proper basis, it does not suffice to propose a plan of treatment for consumption, but our therapeutical methods must be guided and controlled by the pathological conditions. Whilst this is true, there are certain general principles of treatment applicable to all forms. I purpose to consider these first—they are climate and personal hygiene.

In considering the subject of a suitable climate for a pulmonary invalid, I will not go beyond the limits of the United States, within which are contained the utmost variety, and, indeed, the perfection of health resorts for this purpose. In the absence of any statistical data showing the results of prolonged residence in particular localities which might indeed settle the question, we have some general principles to guide us, too little

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regarded by the profession, but of great value. We owe to Dr. Bowditch, of Boston, the eminent physician and sanitarian, the first principle, which he established for Massachusetts, and which has been confirmed on a larger scale for England. The Bowditch generalization is, that there is a constant ratio between the number of cases of consumption and the amount of water—rainfall and collections of water in streams, ponds, and lakes. This principle is not applicable to the ocean, where other conditions obtain. Certain parts of England, having had a large mortality from consumption, present a very different report since suitable drainage works have been put into operation. You need only to cast your eye over the elaborate Atlas of Medical Geography, by Lombard, to see how large a part excess of moisture plays in the geographical distribution of phthisis. All along the sea-coast are traced the deeply shaded lines, whilst in the elevated interior regions the mortality has disappeared. It is true that density of population and other evil hygienic influences are at work, but excess of moisture is a large factor.

Next to dryness of soil and climate as a remedy for consumption is elevation. This fact stands out as conspicuously in the great Atlas of Medical Geography as the previously considered influence. In the elevated regions—the great plains and plateaus of India, Africa, and America—phthisis is almost unknown (Lombard, vol. iv. p. 420). Elevation has an important influence in the relief of phthisis, because the air is dry and rarefied. Breathing rarefied air lessens the intrathoracic pressure, increases the rate of the respiratory movements and the rapidity of the pulmonary circulation. Residence in a rarefied atmosphere increases the rapidity of the circulation and the amount of blood in the peripheral vessels. The influences of these factors in promoting digestion, assimilation, and tissue metamorphosis are unquestionable. Uniformity is only less important as a requisite for a climate for pulmonary invalids. The reason of this requirement is obvious. Those invalids in a condition to be benefited by out-door exercise need an equable temperature in which to pursue their sports or recreations with safety. But more important than this is the bad influence of a variable climate in causing attacks of bronchial catarrh, a morbid process so much concerned in the production of caseous phthisis. Applying these principles to the question of a climate for consumptives, I place first on the list the great plains and plateaus of our interior continent, next certain parts of California, then a limited district, of which Aiken, South Carolina, may be regarded as the centre, and lastly, the upper lakes and Minnesota and the Red River of the North. In the limited space of a clinical lecture it is quite impossible to go further into details on the subject of climate.

Amongst the questions of personal hygiene, alimentation is the most important. And here, gentlemen, I have some important facts to submit to your consideration. We owe to Hughes Bennett the important practical suggestion that the initial disorders of phthisis are stomachal—that before any pulmonary trouble arises there is a period during which the organs of digestion do poor work, prepare the aliment imperfectly, and hence the nutrition of the body declines. That acute minded physiological surgeon, Mr. Jonathan Hutchison, has investigated this, as so many other subjects, in a quite original manner, and he finds that almost universally a form of dyspepsia precedes phthisis. In fact it is a matter of common observation, that the individual is out of condition, is losing ground, and this long before the manifestations of pulmonary lesions of any

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kind. A chronic gastro-intestinal catarrh is present, and one of its special features is that the patient has a positive distaste for the fatty constituents of the food, and that the power to digest fats is much impaired. In a disease characterized by failure of nutrition, and in which the process of repair is so feeble, it is of the utmost importance to maintain the digestion and assimilation at the highest efficiency. There is a general agreement on this point, and hence no sooner is the diagnosis of phthisis arrived at than the injunction of active feeding follows. Without any attempt at correcting the morbid state of the digestive organs, they are plied with the richest hydrocarbons, with a tablespoonful of cod-liver oil before each meal, by way of appetizer, and a tablespoonful or more of whiskey after meals as a digester. It results from this method that the appetite is utterly destroyed, and the food, swallowed with disgust, is either rejected or remains to distress. I hope you will always bear in mind that it is not the quantity of food swallowed, but the amount digested and assimilated which is important to the welfare of the individual. The diet, then, should be carefully regulated to the requirements of the individual. Let me now give you a practical hint, on which you will be able to act with great good to your patients. *A period of rest to the stomach by a minimum diet will enable the organ to recover from the morbid state, and will induce a great appetite.* Acting on this rule, I have repeatedly effected great improvement in the condition of phthisical subjects at the initial period. Put the patient on milk for a week or two, and then gradually construct a suitable dietary. To remove the condition of gastro-intestinal catarrh there are several remedies on which we may rely with confidence. Arsenic stands first, probably, and is to be given in small doses—two drops—three times a day, before meals. Scarcely inferior to arsenic is the combination of iodine and carbolic acid: ℞. Tinct. iodinii ʒj, acid. carbol. ʒss. M. Sig. One to two drops in a tablespoonful of water three times a day, before meals. The oxide and nitrate of silver are also highly serviceable, but unfortunately they cannot be continued long, owing to the danger of argyria. The mineral acids, if the digestion merely flags, or if the previous remedies have been taken for a sufficient time, are very important remedies. I have seen some striking results from the use of the nitro-muriatic acid during the initial stage, but the action of this remedy in changing morbid states of the mucous membrane and in promoting appetite and digestion is the secret of any curative power it possesses. The alkaloid strychnia, dissolved in diluted muriatic acid, makes a useful combination, for strychnia is probably the most effective agent which we possess for arresting the vomiting of phthisis.

If the morbid state of the mucous membrane has been removed, and the appetite restored, then we may consider the question of forcing the nutrition by increasing the performance of the assimilative organs. Now we may give cod-liver oil, and aid its digestion by the administration of malt liquors or alcohol in some form. It should be given after meals, to be digested and assimilated with the other foods. It is a great error to administer the oil, as is so often done, on an empty stomach and some time before the meal, because it will spoil the appetite, and keep the stomach at work during its proper period of repose. Furthermore, the quantity of oil taken should rarely exceed a teaspoonful, for this amount only can the digestive organs properly assimilate at one time. If it impair the appetite and cannot be digested it is useless, and should not be continued. Bernard has put us in possession of an important fact, which ought always to be

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utilized—that is, that ether promotes the digestion of the oil when administered with it. Bernard's notion was that ether increases the flow of the pancreatic juice, and must therefore promote the emulsionizing of the oil. Whether or no the theory be correct, there has been accumulated sufficient testimony to show that the digestion of the oil is much more easily and perfectly accomplished by the addition of some minims of ether.

To what extent is the administration of alcohol desirable and proper in the treatment of phthisis? First of all, we should take our position firmly against a too prevalent notion that whiskey is in a certain degree antidotal, and that any case of consumption must be cured if only it is given early enough, and in sufficient quantity. This mischievous fallacy is so far from true, that we now know a form of degeneration of the pulmonary parenchyma is produced by alcoholic excess. Before hectic comes on, as a rule, the extract of malt and malt liquors are preferable to whiskey and brandy. When wasting proceeds rapidly, and destruction of the lung tissue is going on at the same pace, when the fever approaches more and more the septicæmic type, the stronger liquors are better, but at any period whiskey should be given instead of malt liquors, if it agrees better. Is there any guide to the proper administration of alcohol? I am perfectly clear that these are well-defined principles: That quantity of spirit which increases the appetite, and improves the digestion, is the proper quantity. An excess is hurtful, because the alcohol precipitates the pepsin from its solution in the gastric juice, and therefore suspends the production of peptones. A large quantity taken on an empty stomach is without influence on the digestion of foods, and whilst it affects the mucous membrane injuriously, after absorption acts on the hepatic cells. These reasons seem conclusive in favor of a moderate quantity of alcoholic food—say half to an ounce of whiskey—taken after each meal.

I will now pass to the consideration of particular forms of phthisis.

You have seen recently several cases of caseous phthisis, in which there were considerable areas of infiltration; the period of inflammation had passed, and the products accumulated in the alveoli of the lungs were undergoing caseation. Now the problem for solution in these cases is, How shall we obtain the softening and extrusion of the caseous material without destruction of the pulmonary tissues? Although it is generally held that we possess no direct means of acting on these caseous deposits, and that they can be removed only by the improvement which we may effect in the bodily condition, I have reason to believe that we can reach and act on them to a considerable extent. The salts of ammonia have the power to increase the alkalinity of the blood, to prevent coagulation of fibrin, and to dissolve the albuminous exudations. Whilst these remedies were administered I have repeatedly observed the absorption and disappearance of caseous deposits. It is obvious the smaller in extent and the more recent the more amenable to the action of the remedy. Probably the best mode of administration of the ammonia is to dissolve the carbonate in solution of the acetate (gr. v–x–℥ss), or when it is desirable to give the iodide with the carbonate, they may be administered in an emulsion together. The duration of the administration will be governed by the effect on the caseous deposits, and by the forbearance of the digestive organs, but the remedies must be used for many months in most cases. By giving them properly diluted before meals, and allowing the stomach periods of rest, they may be continued for lengthened periods without ill results.

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The range of temperature, and the amount and kind of interference required, are very important subjects. With regard to the character of the fever it must suffice for me to insist upon the fact, which I have often stated, that the febrile movement of the stage of exudation and deposit is different in character from that of the period of softening and extrusion. The former is inflammatory; the latter septicæmic. During the inflammatory stage we are concerned to employ means to lessen exudation, and to favour its immediate liquefaction and discharge. These means are quinia, digitalis, aconite, jaborandi, etc. When, however, the alveoli are blocked with the caseous deposits our attention must needs be directed to secure a favourable disposition of this material. When the caseation is completed there is a temporary subsidence of the active symptoms, which may continue for some time; the fever abates notably or disappears; the general state correspondingly improves; the cough is less troublesome; the expectoration slight; and there is, in fact, a delusive appearance of returning health. The scene changes when the process of softening begins, and moist sounds are audible in abundance where bronchial voice and breath were heard a short time before. Now there is an extensive area of pus formation, and the fever which attends it is a septicæmic fever. Observe the attendant phenomena: there is a daily sensation of coldness, of chilliness, or a distinct chill, some time during the morning, and for a short time before it the temperature had been at normal or even below; then a fever comes on, the mercury rising to 103°, 104° F.; and the whole process terminating in a profuse sweat. In respect to this fever the practical point I wish to impress on you is, that the best means of keeping down the temperature are rest, and the administration of remedies to restrain the sweats, and to quiet the cough. By rest I mean a condition of repose without exercise, except such muscular movements as are required in dressing, in walking from one room to another on the same floor, etc. There are sound physiological reasons for this recommendation. Rest lessens the consumption of material, the wear of tissue, and the production of heat, and conversely exercise increases the consumption of material, wastes the tissues, and increases the production of heat. Applying the physiological data to the subject before us, I must admit that exercise is theoretically prejudicial to the phthisical suffering from septicæmic fever. I have made a number of careful observations with a standard thermometer to ascertain the effect of exercise on the daily temperature of consumptives in the stage of softening, and I have noticed a rise of from one to two degrees. Any observant physician, whose attention is directed to it, will not fail to perceive the disastrous effect of persistent exercise in respect to an exacerbation of all the symptoms. Whilst I thus strongly insist on the necessity for rest when there is any considerable elevation of temperature in phthisis, I do not mean to apply this dictum to all cases. In the cases of incipient phthisis, fibroid lung, and chronic forms, with little fever, I advise an outdoor life, and exercise consistent with the stamina of the individual. Experience has abundantly shown that in cases of consumption at the initial stage, an outdoor life of some considerable exposure, indeed, is permanently beneficial. Furthermore, gentlemen, I must relieve your minds of the impression, if you have received it, that I mean by *rest*, confinement to the foul air or other evil hygienic influences of the sick room. By no means. Rest is not incompatible with constant, or nearly constant, exposure to the external air, and this I always insist upon in prescribing the necessary regimen.

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I come now to another symptom—cough—which usually taxes severely the resources of the physician. As cough prevents sleep, destroys rest, and is exhausting, the patients are clamorous for relief. Much coughing is a peculiarly severe form of exercise, and demands suppression or amelioration for this reason. The expedients are almost past computation—a sure indication both of failure and intractability. The reflex irritation proceeding from the fauces may be allayed by a gargle of bromide of potassium, by brushing over the mucous membrane a one per cent. solution of carbolic acid, or by atomizing a solution of morphia. The combination of diluted hydro-bromic acid, and spirit of chloroform proposed by Dr. Fothergill, does very well sometimes, but in general is disappointing. In fact there are no efficient substitutes for opium, and we must turn to this when the cough is severe and persistent. The most generally useful of the preparations and derivatives of opium is codeia. The grounds of its utility in cough, are these: it has a selective action on the pneumogastric nerve, allaying irritability of its end organs; it is calmative and hypnotic, and as compared to morphia is less excitant and less nauseant. Codeia is adapted to those cases in which the cough is largely nervous. It may be combined with strychnia when there is vomiting, and with atropia or picrotoxine when the sweats are profuse. The following are examples: ℞. Codeiæ sulph. gr. x, ext. hyoscyami ℈j. M. ft. pil. no. xx. Sig. One pill every four hours. ℞. Codeiæ sulph. gr. xvj, strychniæ sulph. gr. j, atropiæ sulph. gr. $\frac{1}{8}$, acid. sulph. dil. ℥ij, aquæ ℥vj. M. Sig. Ten to fifteen drops three times a day. Morphia may be substituted for codeia in any of these prescriptions, by reducing the quantity one half. Carbolic acid exercises no little influence over cough, expectoration, and fever, and is most serviceable in allaying the reflex vomiting. It is best given in solution, as follows: ℞. Acid. carbolic. gr. viij, aquæ lauro-cerasi, aquæ ää ℥i. M. Sig. A teaspoonful every four hours. Carbolic acid is especially indicated in the fetid expectoration of bronchiectasis. In the cough of fibroid lung, and of the stage of deposit before softening in caseous pneumonia, I have had excellent results from the administration of iodide of ammonium in the wine of tar. ℞. Ammonii iodidi ℥ij, vini picis liquid. syrp. tolu ää ℥j. M. Sig. A teaspoonful.

Now, gentlemen, I come to the last topic which I can discuss to-day—night sweats. This is both an interesting and an important subject. It is interesting because of the striking results obtained by some new contributions to our therapeutical resources, and important because of the baleful influence of the sweats over the progress of the disease. If the sweats are profuse, there is an actual loss of material, of salts and organic matter, which represents waste of tissue. It is highly important to check this waste and preserve the material for the nutrition of the body. Until the recent observations of Dr. Murrell proving the great value of picrotoxine, atropia had the first place as a remedy for the night sweats of phthisis. I have usually given atropia with strychnia and morphia for the triple object of arresting the sweating, allaying cough, and stopping the reflex vomiting. It is not a little remarkable that the temperature is generally reduced by the combined use of these remedies. I have preferred to give the atropia with regularity three times a day, because of an influence over the progress of the disease, which seems to be independent of its anhydrotic power, and which can be explained only, on the supposition that it has the power to improve the nutrition of the lungs. Its introduction into use as a remedy for phthisis, has put a new phase on the prognosis of cases of caseous

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pneumonia, not advanced to the stage of softening. Some practitioners prefer to give atropia in a single full dose ($\frac{1}{60}$th of a grain) at bed hour, but the results are better, if given in a small quantity ($\frac{1}{300}$th of a grain) the effect being distributed through the day. The susceptibility to the action of atropia varies greatly, and as immense discomfort may be produced by a medicinal dose, care is necessary to avoid unpleasant results. Recognizing the importance of the influence which atropia appears to have on the trophic system of the lungs, I have had patients take it for years at a time, and without any ill effects.

The success of picrotoxine as an hydrotic has been quite decided. Dr. Murrell finds that so small a quantity as the $\frac{1}{300}$th of a grain, given at bed hour, may arrest the sweating for a number of days. Although possessed of properties somewhat like those of strychnia, it is by no means so powerful, and may be given by the stomach up to $\frac{1}{30}$th of a grain. Dover's powder, and, oddly enough, pilocarpine occasionally acts, very decidedly as an arrester of perspiration—a capital illustration of certain kinds of physiological antagonism. But pilocarpine cannot be depended on for constant service. Take it all in all, atropia should be preferred in most cases, because of its apparent influence over the nutrition of the lungs. Whilst atropia is given, three times a day, picrotoxine may be exhibited at bedtime, if the effect of the former is inadequate.

There are other important topics connected with the treatment of phthisis which I would gladly enter on, if there were sufficient time, but in the facts I have laid before you will be found the main points from which the details may be easily derived. You will find, indeed, that treated according to the principles I have just developed, many cases of phthisis will be conducted ultimately to a safe termination, and you will learn to look with more hopeful confidence on the success of your management than you have probably done heretofore.

CATARRH OF THE BLADDER; ALBUMEN IN THE URINE.

Part of a Clinical Lecture recently given at University College Hospital.

By Sir HENRY THOMPSON,
Surgeon Extraordinary to the King of the Belgians.

There is a group of symptoms frequently met with in men of advancing years, to which I desire especially to call your attention. One of the first circumstances to attract notice is that the urine is more or less cloudy when passed, and that on standing it deposits some adhesive opaque matter in the bottom of the vessel. Such urine is generally neutral, or at best faintly acid; occasionally it is alkaline, always becoming so rapidly by keeping. On interrogating the patient, you learn that the act of micturition is performed rather more frequently than natural—that he is disturbed by it two or three times in the night, and every two hours or so during the day. He may also complain of dull pains about the pelvis and back; he finds the effort to pass water rather greater than it formerly was, and the general health has of late suffered a little.

Now it is by no means uncommon to hear this group of symptoms spoken of as indicating the presence of a "catarrh of the bladder." And catarrh of the bladder is very generally regarded as a particularly obstinate, sometimes indeed as an incurable, affection. And I am free to confess that as long as these phenomena

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are considered referable to a specific disease, "catarrh," so long probably will the disease prove rebellious to treatment and sometimes even incurable.

Again, when the urine described is examined by the microscope, a quantity of pus, varying much in different cases, is seen to be present in it; and when examined by heat and nitric acid, a certain amount of albumen is, as a matter of course, deposited.

It happens to me, in the course of consultations, to observe that these phenomena—the admixture of pus with the urine and the presence of albumen—are, singly or together, frequently regarded in themselves, and apart from other facts, as necessarily presenting indications of very grave importance. Are they so?

Certainly they are by no means necessarily grave; on the contrary, in the great majority of cases of elderly men, the presence of these products is not grave. Let me demonstrate to you the marked distinction which exists between the significance which albumen possesses in two different categories of cases. I can scarcely ask your attention to a matter of higher practical importance.

1. When a patient's urine, habitually clear, acid, and free from the faintest blood-tint, throws down to the test of heat and nitric acid a notable quantity of albumen, the source of that albumen is the renal circulation, and, if persistent, the case is almost certainly one of grave import. The presence of organic change in the kidney structure is to be inferred, and other evidence of its existence, if sought for, will probably be found.

2. A very slight admixture of blood in any urine, no matter what the source of the hemorrhage, will produce a considerable deposit of albumen. It is evident, then, that the product in such cases, although sometimes grave, is not necessarily so, and that it may furnish an indication of the slightest possible import, inasmuch as a little blood may appear in the anterior passages, from a lesion which is slight and temporary in its nature.

3. Pus in the urine may, and most commonly does, proceed from some local condition of the bladder, occasionally, indeed, from local inflammation of the urethra. Nevertheless, albumen will be deposited on applying appropriate tests. It is evident that albumen, resulting simply from pus produced by chronic cystitis, has an import vastly less grave than that described above as No. 1, being a purely local and mostly temporary affection of an organ which has no vital function, but merely a mechanical one; the albumen in the former instance being evidence of disorganization in the structure of a vital organ—that is, one the sufficient action of which is essential to the very existence of the body.

In short, there ought not to be the slightest temptation to confound two states so utterly unrelated as the two states which I have here contrasted, although they offer from one point of view an accidental similarity—that is, there is in both an admixture of albuminous material in the urine.

Still, nothing is more common than to hear, in connection with a case of purely local bladder affection, the remark gravely and significantly made, "I assure you I have on several occasions found by testing a large quantity of albumen in the patient's urine." It is a little difficult sometimes, although necessary, to listen to such an observation with quite sufficient patience. Does the observer really desire to intimate that the patient has constitutional albuminuria—*i. e.*, some form of Bright's disease? If not, his remark is simply devoid of meaning; since, as we know, there is vesical pus in the urine, we know equally that the albuminous constituent must appear on applying the test. And vesical pus in the urine certainly has no more relation to constitutional albuminuria than pus which comes from an external abscess or surrounds a common boil. Simple as all this may appear to you and to me, it is quite astonishing how much confusion there is in men's minds in regard to this matter, and how much importance some

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persons attach to all albumen found in a urinary test-tube, although the source of the deposit may be easily demonstrated to be the bladder, and no other part of the organs which lie above it.

Finally, the important practical point in relation to treatment is first to ascertain the occasion of the local catarrh. In nine out of ten of these cases it consists in inability, often only to a slight extent, on the part of the patient to empty the bladder completely. The universally acknowledged cause, hypertrophy of the prostate, is, of course, the first in order of frequency. But after this are others not infrequent. Defective action may be due, first, to simple atony, the result of past habitual or occasional over-distension of the bladder with urine; secondly, to thickened and incompetent muscular parietes of the bladder after chronic inflammation, sometimes associated with old stricture; thirdly, to defective innervation seen in connection with other slight signs of impaired function in a nervous centre; the last being, of course, the most serious of all, in its nature and probable results.

In all of these local treatment, by carefully removing all the secretion by means of a soft catheter two or three times a day, perhaps aided by gently washing out some remainder, is the chief efficient remedy. Remember that this incompetence of the bladder is always to be sought for by physical examination; no other form of evidence in relation to it, as the patient's sensation, etc., is to be accepted as trustworthy. The introduction of a soft catheter immediately after the patient has passed water by his natural efforts, is the only test, and it should be applied on two or three occasions before arriving at a definite conclusion. The causal relation between the group of symptoms enumerated at the outset, and the defective function described, is far more common than it is generally supposed to be. It is on this account, therefore, that I have asked your attention specially to the subject.—*Lancet*, Jan. 3, 1880.

Hospital Notes.

Case of Intravenous Injection of Milk.

Michael M., aged forty, was admitted into Jervis Street Hospital, Dublin, under the care of Dr. MELDON, on Dec. 4, 1879. About two years before, symptoms of phthisis commenced, and gradually increased until May last, when his friends were in daily expectation of his death. Dr. Meldon injected three and a half ounces of milk into his veins. The operation, which was not followed by any obstruction of respiration, gave him almost immediate relief from the feeling of weakness from which he suffered. His appetite returned; he slept well, and in a few days he was able to sit up. Soon after he was sent to the convalescent hospital, where he continued to improve, and in about six weeks was able to resume his occupation of a pawnbroker's assistant. During the summer months he improved very much, and increased considerably in weight. In November last he was attacked with pneumonia, after which he had a constant cough. The other symptoms of phthisis also returned, and increased until, unable to continue his employment, he sought admission into the hospital.

On admission both lungs were extensively diseased, and there was constant diarrhœa, which had reduced the patient to an almost moribund condition. His cough was most distressing, and he was unable to take any nourishment. As all efforts to improve his condition were of no avail, Dr. Meldon, yielding to his

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patient's own urgent entreaty, consented to repeat the operation of injecting milk into the veins.

On the 13th of January, assisted by Drs. Cranny, Stoker, and Kelly, and in the presence of a large class of students, Dr. Meldon injected three and a half ounces of goat's milk, at a temperature of 100°, into one of the veins of the right arm. The milk, as usual, was rendered alkaline by the addition of carbonate of ammonia, and the goat was milked at the bedside of the patient. During the operation the man complained of pain and coldness in his back, but he stated he did not feel any difficulty in breathing or pain in the head. Soon after the operation the temperature rose from 99° to 104°; his breathing for a few hours was somewhat hurried, but there was no obstruction to respiration, as in many of the previous cases. The pain in the back and the coldness remained for some hours, but the patient slept well that night, and awoke next morning greatly improved in spirits and feeling much stronger. The diarrhœa was, as in all former cases, immediately checked by the operation. For some days he made steady progress towards recovery—his appetite increased, and his cough diminished.

Dr. Meldon, in his remarks to the students, said that the operation of intravenous injectment of milk had been received in Europe with very little encouragement, and even in New York, where there was every promise of the operation receiving a fair trial, it seemed to have fallen into disrepute. The present was the tenth case in which Dr. Meldon had performed the operation, and with a result that made him most hopeful of its success when performed in suitable cases and with proper precautions. As yet he had only resorted to it in cases where the patient's hours were already numbered. In all these cases life had been considerably prolonged, and in four the patients had been completely cured by the operation. The operation was quite free from danger if one or two points were attended to, besides those which had to be looked to in every case of transfusion. The two points which were peculiar to the transfusion of milk were, that care should be taken that the milk was alkaline, and that only a small quantity should be thrown in at a time, four and a half ounces being the largest amount that should be injected. Lately a good deal has been written against the operation. The opponents of the procedure might be classed under three heads: First, those who say it is *theoretically* wrong, second, those who argue from experiments on lower animals, and, thirdly, those who believe the globules of the milk are too large to pass through capillaries. The first and last of these may be met by pointing to the fact that several cases have been successful, and in no case where the operation has been performed with proper care with regard to the two special points which Dr. Meldon mentioned have injurious results followed.

With regard to the comparative experiments on dogs, the great error had been that healthy dogs had been selected, and, comparatively speaking, an enormous quantity of milk had been injected.

Dr. Meldon stated that he had no doubt if a healthy country patient was selected for the operation, and say forty ounces of milk injected into his veins, the result would be almost necessarily fatal. This really had been the kind of experiment on dogs, and it was not surprising that the conclusions drawn from these experiments should be so unfavourable.

The cases which Dr. Meldon had cured were all cases of pernicious anæmia, and he stated he could easily understand how in that disease a small quantity of corpuscule-supplying fluid might alter the condition of the blood, and thereby effect a cure.—*Lancet*, April 3, 1880.

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MONTHLY ABSTRACT.

Anatomy and Physiology.

Congenital and Progressive Hypertrophy of the Right Upper Extremity.

Hypertrophy of one extremity or of one side of the body is of very rare occurrence, and cases have only been met with and reported by continental writers, with the exception of that of Mr. Adams, reported in the *Lancet* in 1858. The case recorded in this instance by Professor OSLER (*Journ. of Anat. and Phys.*, vol. xiv. part 1) occurred in a girl nearly nine years of age. The enlargement seems to have existed from birth, but had been passed over almost unnoticed for some time, till the great disparity in the size between the two hands attracted attention. When the case came under the observation of the author, the limb looked like that of a medium-sized man. The enlargement extended to the muscles of the shoulder, namely, the deltoid, pectoralis major, and trapezius, although to a less extent in the latter; the sterno-cleido-mastoid muscles, however, were of equal size. The right arm measured from the tip of the acromion to the styloid process of the radius 42 centimetres, whereas the left was only 37 centimetres, making a difference of five centimetres in the length of the two arms. The right humerus measured 3.1 centimetres longer than the left, so that the difference between the forearms must have been 1.9 centimetres in favour of the right. The clavicles did not vary more than they frequently do on the two sides of the body of a normal person. The circumference of the right arm, with the biceps extended, was 18.5 centimetres, while that of the left, with the muscle in the same state, was 15.6 centimetres. When the biceps was strongly flexed, the right arm measured 20.3 centimetres, and the left 15.9 centimetres. The circumference of the right forearm in its thickest part was 21.2 centimetres, while the left measured only 17 centimetres; the right wrist measured 15.5 centimetres in circumference, while the left was only 13.5 centimetres. Similar variations were found in the measurements of the hands, the right being larger than the left, in the same ratio that the right arm was larger than the left. The biceps was very strongly developed, as were all the muscles of the humerus. The right forearm showed a marked contrast to the child-like appearance of the left. The fingers were kept in the semi-flexed position, but all except the middle finger could be extended at will. The power over the fingers which the patient possessed seems to have been only gradually acquired by use, and the fingers were much more flexed when the patient was younger. The grip of the two hands was very marked, that of the right being much more powerful and strong than that of the left.—*London Med. Record*, March 15, 1880.

Materia Medica and Therapeutics.

Tayuya.

Recent investigations add weight to the estimation of the value of this drug in scrofula and syphilis. Various writers cited in the *Centralblatt für Chirurgie*

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No. 48, 1879, give notes of fifteen cases of syphilis and one of ulceration of the lip of uncertain origin cured by tayuya within a month. ALPAGO NOVELLO gives the case of a girl, aged 9, suffering with scrofulous ulcers and submaxillary lymphatic engorgement, lymphoma of the neck, etc., who was much improved by the use of the tincture. Of two other similar cases, one was almost or entirely cured, the other much improved.—*Lond. Med. Record*, March 15, 1880.

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Bromide of Ethyl.

Dr. R. J. LEVIS, Surgeon to the Pennsylvania Hospital, has lately been using the bromide of ethyl as an anæsthetic, and has now had sufficient experience upon which to base some very decided impressions of its value. Its principal physiological characteristics which will concern the surgeon are its rapidity of action and the quickness of recovery from its effects. As far as observed by Dr. Levis, it does not influence the circulation, excepting to sometimes produce a slight increase in the rapidity of the heart's action and in arterial tension or pressure. The cerebral anæmia and the fatal syncope of cardiac depression, to which cloroform is liable, are dangers which do not appear to threaten in the anæsthesia of the bromide of ethyl. Respiration is but little influenced by the bromide of ethyl, beyond the ordinary characteristics of all anæsthetic sleep; but in this respect its action seems more to resemble that of ether than that of chloroform. Nausea and vomiting appear to occur less frequently in the anæsthesia of the bromide of ethyl than in that of ether or of chloroform, and the rapidity of recovery from its effects must render such impressions very brief and transient. Commencing with the occasional and very cautious use of the agent, Dr. Levis has recently adopted it to the exclusion of other anæsthetics.

Bromide of ethyl, or hydrobromic ether, is a colorless liquid, with a specific gravity a little greater than that of water. It has a decided and characteristic odor, which is thought to resemble that of chloroform, but is less agreeable. It vaporizes more readily than chloroform, and in this respect and in density is intermediate between ether and chloroform. It seems to be entirely eliminated through the lungs, and in this regard has a decided advantage as to safety over chloroform. The high vaporizing point of chloroform does not permit its rapid elimination from the body, and it is not entirely removed by the lungs. So, when some secreting organs happen to be, from disease, incapacitated, the nervous system is liable to become overwhelmed. The odour of the bromide of ethyl remains for a longer time on the breath of a patient than does that of ether or chloroform, but it seems to be quickly dissipated from the apartment in which it has been used. Its vapour is quite unirritating to the respiratory passages when inhaled, and in this quality has the advantage over both ether and chloroform.

General excitement and the tendency to struggle occur far less frequently than in the early stages of the anæsthesia of ether, and, apparently, even in that of chloroform. It is evident that the impression on the motor centres must be very rapid, and Dr. Levis estimates that complete anæsthesia is accomplished in one-third less time than is the case with chloroform. The recovery from its effects is even comparatively more rapid, in the greater number of cases the time not exceeding two minutes after the inhalation has ceased. Muscular co-ordination is so quickly regained that the patient is often able at once to stand and to walk on awakening from profound anæsthesia. The pupils dilate as soon as complete anæsthesia is induced, and, as the sentient state returns, they resume their normal condition. Dr. Levis suggests that the condition of the pupils may be an index and guide in the administration.

Anæsthesia with the bromide of ethyl is usually effected in from two to three

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minutes. The most rapid production of complete insensibility, in Dr. Levis's experience, has been in one minute, in the case of a girl eight years old; the longest period has not in any case exceeded four minutes. When carefully administered, the quantity consumed has varied from one fluidrachm in the case of a child, iridectomy being performed, to eleven drachms used during an amputation of the forearm of an adult, occupying forty minutes, including the ligation of the vessels and the dressing of the stump.

The quantity of the article consumed in affecting anæsthesia will greatly depend on the method and manner of using it. Much of it is, of course, wasted by diffusion in the atmosphere. With great regard for economy, this waste may be prevented by imperviously covering the material on which it is poured. Dr. Levis's plan, with adults, is to pour two drachms of the bromide of ethyl on a small napkin folded up to a space of about four inches square, and then laid on a larger napkin, folded so as to be large enough to cover the entire face of the patient. It is well to secure the two napkins together with a pin.

The vapour of the bromide of ethyl is not inflammable; indeed, when dense, it extinguishes a flame if brought into contact with it.

Whilst feeling inclined to impress caution in regard to the use of so powerful an agent as the bromide of ethyl, Dr. Levis is, from a basis of experience, inclined to recommend its use to the profession.—*Philadelphia Medical Times*, Jan. 17, 1880.

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Subcutaneous Injection of Metallic Mercury.

Professor FURBRINGER, of Jena (*Archiv für Klin. Med.*), has made a large number of hypodermic injections of metallic mercury, and states that at the time of injection they are well borne, but within twenty-four hours inflammatory symptoms set in, and frequently result in abscess. If it be simply injected and not divided by subsequent rubbing, no mercury can be found in the urine, but it has been obtained in a reguline state under the skin at the end of a year and a half. However administered, a slow improvement of the syphilitic symptoms takes place. Metallic mercury is best borne when injected in an emulsion of mercury two parts, mucilage of acacia and glycerine each ten parts. One or two injections per week should be made. Fürbringer believes that this plan of treating syphilis by mercurial emulsion injections should be reserved for cases in which inunctions and internal treatment fail or in which it is not advisable to make frequent injections.—*Lond. Med. Record*, March 15, 1880.

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Uses of Physostigmin in Diseases of the Eye.

WEBER (*Arch. für Ophthal.*, and *Jahresbericht*) publishes his experience of the therapeutic value of physostigmin in various diseases of the eye, which he says increases the tension in the vitreous space and diminishes it in the anterior chamber. It acts in direct antagonism of atropia, which in a healthy eye lowers the tension in the vitreous space and raises it in the anterior chamber. He, therefore, recommends physostigmin in keratocele, in conical cornea, in ulceration of the cornea, as highly advantageous. In glaucoma, he found physostigmin very useful, and explains its effect, that by the contraction of the pupil the detachment of the ciliary margin of the iris from the periphery of the cornea is effected, and the filtration of the fluids of the eye through the canal of Fontana is rendered possible, and thus tension is diminished.—*Lond. Med. Record*, March 15, 188

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Nitro-glycerine as a Therapeutic Agent.

For some time past, nitro-glycerine has been used as a remedy for neur but has never attained anything like a wide popularity with the profession,

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bly on account of the disagreeable, not to say dangerous, effects known to follow an overdose. The case is recorded of a lady who, for many years, suffered from a most persistent neuralgia, which had resisted the best efforts of her numerous medical advisers. At last, it was determined to try the effects of nitro-glycerine, and she was given two and a half drops of a five per cent. solution in a teaspoonful of water. In the course of a minute or so, she complained of sickness and faintness. These rapidly increased, and there was for a few minutes unconsciousness, accompanied by stertorous breathing and convulsive action of the muscles of the face. She became deadly pale, the pulse was alarmingly feeble, and for a time she was undoubtedly in imminent danger. Some brandy and water was poured down her throat; she vomited, and the unpleasant symptoms gradually subsided. On recovering, she found that her neuralgia had left her completely, and, as it subsequently proved, permanently.

This is a remarkable case, but the fact of an overdose of a strong solution having been given is no argument against its employment, in a more dilute form, in the hands of a skilled observer. Both Mr. Field and Dr. Brady speak of it as an anti-neuralgic of the greatest value. It is not likely to supersede established remedies—such as quinine, chloride of ammonium, croton-chloral, phosphorus, and gelseminum—in the treatment of neuralgia; but still it may be found useful from time to time, and in obstinate cases. In addition to its use in neuralgia, it has been suggested as a remedy for tetanus, hydrophobia, sea-sickness, chloroform poisoning, and many other morbid conditions.

It is, however, as a remedy for angina pectoris that it will be found most useful. Dr. Murrell's cases show that, in the treatment of this terrible complaint, it is an agent of the greatest possible value, worthy to be ranked with nitrite of amyl. It is now in general use in most of our London hospitals, and in many cases it has effected a complete cure. A very striking account of the benefit derived from its employment has been published by Mr. Jameson, of Caistor, who suffered very severely from angina pectoris. At Dr. Murrell's suggestion, he began by taking two minims of the one per cent. solution every three or four hours during the day. He always found relief if he took the dose when he felt the first threatening of the attack, and the paroxysm was staved off. He continued taking the two-minim dose regularly every three or four hours for four days, and, as the attacks did not trouble him so much, he began to diminish the frequency of the dose, and took it only when he felt an attack threatening. He says: "I always carry an ounce and a half bottle of the diluted solution in the breast pocket of my coat, the bottle carefully marked for six doses, each dose containing five minims of the one per cent. solution. If I feel an attack coming on, I apply to my bottle, and at once feel that I am saved from a paroxysm. The action of the medicine seems to commence the moment it is swallowed, just as Dr. Murrell describes. It produces always a feeling of fulness in the head, singing in the ears, and a sensation of pulsation all over, especially in the head, severe at the root of the nose, as if epistaxis were threatened. I do not suffer from headache, and the congested feeling soon goes off. It is a great boon to have a remedy in which you can have perfect confidence that the attacks can be controlled. I have not had any severe attack of the disease since I got the solution, and began to take the drug, six weeks ago."

The nitro-glycerine can be obtained in solution either in alcohol or in ether, but the former is usually preferred. It is difficult to lay down any absolute rule as to dosage; but it is a good plan to begin with a drop of the one per cent. solution—or, in the case of a delicate woman, even less—and gradually to increase it until the full physiological action is produced. A dose may be administered at stated intervals—*e. g.*, every three or four hours; but it is best to be guided by

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the urgency of the symptoms, and to give it only at the threatened onset of an attack. The condition of relaxation of the bloodvessels, as shown by Dr. Fancourt Barnes's sphygmographic tracings, usually lasts about half an hour. At first, headache is often a source of inconvenience; but tolerance in this respect is soon established, and the patient ceases to complain. It is undoubtedly, in many cases, a nuisance to have always to carry a bottle of medicine about in the pocket, and an attempt has been made to put up the nitro-glycerine in a more portable form. Mr. Martindale has recently shown that it is soluble in melted cocoa butter, and this mass may be employed as a basis for making pills. The great objection to the pills is that they do not act so quickly as the spirituous solution, unless munched up in the mouth, and the idea of having to chew pills is anything but a pleasant one. A better plan is to add an equal quantity of chocolate-paste to the pill-mass, and then to roll it out and cut it into lozenges, which can be made of any desired strength.

It is often asked if nitro-glycerine can be dispensed with perfect safety, and this question we can answer most positively in the affirmative. With the most ordinary care, it would be impossible for an accident to occur. There would naturally be objections to manufacturing nitro-glycerine in the midst of a crowded city; but there can be no danger in keeping the one per cent. solution in small quantities for medicinal use. The pill-mass may be thrown on the fire, or hammered on an anvil, without any danger of explosion; and it has not been found necessary to adopt the suggestion of a daily contemporary, and label each box of pills: "Explosive, with care: containing dynamite." Nitro-glycerine can be used in medicine with perfect and absolute safety. It has already proved of such service, that it is to be hoped that the one per cent. alcoholic solution may find a place in the next edition of the *Pharmacopœia.—British Med. Journal*, March 27, 1880.

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Odourless Iodoform.

No satisfactory method of disguising the penetrating odour of iodoform has yet been proposed. The following formula, however, it is asserted by Dr. LINDEMANN (*Allgemeine Medicin. Central-Zeitung*, 1879, No. 74), does away with the smell entirely: ℞. Iodoformi, gr. xvj; bals. Peruviani, gr. xxx; vaselini, adipis, ung. glycerini, āā ʒij.—M. If desired in a fluid form, the following formula may be employed: ℞. Iodoformi, gr. xvj; bals. Peruviani, ℈iiss; alcoholis, glycerini, collodii, āā ʒiij.—M.—*Lond. Med. Record*, March 15, 1880.

Medicine.

Benzoic Acid in Acute Articular Rheumatism.

Dr. SENATOR (*Zeitschrift für Klinische Medicin*, Band i.) has given benzoic acid in forty-six cases of rheumatic polyarthritis. Small doses were given at first, in order to guard against irritant effects; and, finally, 10 to 12 grammes (150 to 180 grains) of the acid, or 12 to 15 grammes or more of benzoate of soda, were given daily; the acid itself in the form of powder, boluses, or capsules; the salt in a solution of 10 to 15 per cent. in aromatized water, with or without sugar. The results of the observations may be summed up by saying, that benzoic acid is a remedy of high value in acute articular rheumatism, though inferior to salicylic acid. Of twenty-two cases of acute articular rheumatism, twenty-one were

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cured within a period varying from two to seven days; in one case, where the disease was of longer duration, the time required was eleven days. The action of salicylic acid is more decided than that of benzoic acid, which is gradual. Several cases in which salicylic acid had been given without effect or in which it could not be tolerated, recovered under the use of benzoic acid. One point in favour of benzoic acid was the fact, that in none of the cases treated were there any symptoms of irritation of the stomach, intestines, or other organs. In the cases treated by it there were no relapses, nor cardiac or other complications. Further experience, however, is required in order to determine whether benzoic acid, in spite of the comparative slowness and uncertainty of its action—for it failed in several cases—is to be preferred to salicylic acid on the ground of the permanency of the cure and the absence of complications. The use of benzoic acid appears to be indicated in cases where salicylic acid or its soda-salt either cannot be borne or fails to produce any effect.—*Lond. Med. Record*, March 15, 1880.

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Syphilitic Muscular Contraction.

M. CESBRON, in his thesis (*Thèse de Paris*, and *Journal de Médecine et de Chirurgie Pratiques*, November, 1879), has brought together a certain number of facts relating to a comparatively little known affection, syphilitic muscular contraction. They concern those contractions which manifest themselves in the course of syphilis, without appreciable lesion of the contracted muscle and the constituent parts of the region. This affection is met with in the secondary period of syphilis, sometimes also in the tertiary period, or at the same time as the so-called transitory symptoms. It may show itself in different muscles, in the masseters, in the gastrocnemius; but its favourite habitat is the brachial biceps, for which reason it has been termed, by M. Mauriac, bicipital myopathy. In this case, as M. Cornil has stated, it shows itself by stiffness of the elbow-joint, and the impossibility of complete extension of this joint. If this extension be increased, the biceps, which extends itself, is contracted, and opposes itself to movement. Gradually the extension movement becomes more and more limited, and the forearm remains bent over the arm at a varying angle, from the obtuse to a very acute angle. The movements of the articulation are thenceforward very restricted, but the movements comprised in the limited angle of extension are readily performed. It is a question of a contraction of the biceps, which is not to be got over, and produces sharp pain when extension is forcibly made; but there is nothing wrong in the joint. Palpation shows that the tendon of the biceps is hard and stretched like a cord, and that the muscle itself assumes the rounded form which it puts on when it contracts. Patients suffer at the same time, to a variable extent, and the seat of the pain is found either at the level of the elbow-bend, or at the circumference of the olecranon; in the lower limb, pain occupies the popliteal space, and the upper extremity of the gastrocnemii. The general phenomena observable at the same time are ruled by the syphilis; but it is not uncommon to find pains appear simultaneously in some joints. Likewise, in a certain number of cases, cold has appeared to be the occasional cause in the production of this contraction. Syphilitic contraction presents somewhat considerable differences in its progress: it never constitutes a very serious affection, but may last a long time, sometimes even for years. Thus the treatment is very important, for its action is as quick in this as in other syphilitic manifestations. Mercury should be used when the contraction shows itself at an early stage, and the iodide of potassium when it puts in a later appearance.—*Lond. Med. Record*, March 15, 1880.

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Syphilis of the Central Nervous System.

At a meeting of the Königsberg Association for Scientific Medicine (*Berliner Klin. Wochen.*, 1879, p. 407), Dr. NAUNYN discussed sixty cases in which the history of the patients had been accurately noted. Eight had been examined *post-mortem*. No exostoses (which during life are frequently set down as the cause of brain-symptoms in syphilis) were found. On the other hand, gummata in the brain-substance, subdural gummata softening as a sequela of endarteritis, with or without consecutive thrombosis, and simple softening, were ascertained to be present. Brain-symptoms frequently belong to the earlier manifestations of the disease. Naunyn has frequently seen it within the first year. Heubner's assertion, that intellectual and active men are particularly liable to this form of disease, does not appear to be borne out by Naunyn's experience. In general, it may be said that young persons are especially liable to syphilis of the brain. That there are any specific peculiarities about the disease, excepting the paralysis of the ocular muscles and pain in the head, Naunyn cannot admit. The only characteristic point is that the usual symptoms occur in the young instead of the old. An important diagnostic point is the absence of symptoms pointing to compression (*stauungspapilla*, etc.). The usual symptoms are those pointing to a centre of disease; hemiplegia was common in Naunyn's cases, together with paralysis of the ocular muscles in many instances, which, as is known, rarely occur in ordinary hemiplegia. Epilepsy is not uncommon. Charcot's assertion that hemi-epilepsy is particularly characteristic of syphilis, is not borne out by Naunyn's experience. He has never seen a case. Paraplegia occurred in eight cases out of the sixty; once the group of symptoms pointed to hemiplegia spinalis. The prognosis of brain-syphilis is, according to Naunyn, always doubtful. The number of cases which entirely recover is very small. In any case, however, the prognosis is more favourable than when the same symptoms are due to any other cause. Naunyn uses mercurial inunctions, and only employs iodide of potassium occasionally.—*London Medical Record*, March 15, 1880.

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Rapid and almost Universal Paralysis with Recovery.

At a recent meeting of the Clinical Society of London (*Lancet*, March 20, 1880), Dr. BUZZARD read notes of a case of Rapid and almost universal Paralysis, involving the four Extremities and both sides of the Face, Respiration and Deglutition; Recovery. The patient, a sparely-built man, forty-four years of age, when admitted under Dr. Buzzard's care at the National Hospital, presented double facial palsy. His face was devoid of expression; he could not whistle nor frown, and the saliva dribbled from his mouth. There was also complete palsy of the external rectus of each eye. The tongue was tremulous, but not wasted. He could not swallow solids, except with difficulty; but fluids did not regurgitate. The sterno-mastoids were flaccid. Respiratory movements were upper thoracic, and they were not aided by the sterno-mastoids. There was some loss of control over the sphincter ani. As to the limbs, he could just move his arm sufficiently to feed himself, but otherwise they were powerless, though not wasted. He was unable to stand, and there was great muscular flaccidity in his legs. The patellar tendon-reflex was absent in both legs.—*Cutaneous Sensibility*. Over both sides of face there was loss of tactile sensation, but heat and cold were differentiated. On the extremities there were defined areas of anæsthesia.—*Smell*. Assafœtida and sumbul could be recognized by right nostril, not by the left.—*Sight*. Muscæ; diplopia; fundus oculi normal.—*Hearing*. Normal.—*Taste*. Neither sugar nor salt could be perceived on either side of tongue.

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He suffered from sharp pain in the right thigh. The urine contained no albumen. The history of the case was as follows: A month previously his face was noticed to be drawn to the right. Then he began to have sensations of "pins and needles" in the hands and feet; then his legs failed him. Next he lost power in swallowing, and, lastly, his arms got weak. There was no history of a blow or other injury, or exposure to cold, nor of any throat affection, nor of his having been in the vicinity of any one suffering from sore-throat. When twenty-four years of age he contracted syphilis, but had no marked manifestation of the disease. He was given ten grains of iodide of potassium every four hours. Improvement soon set in, and about a fortnight after admission he was ordered mercurial inunctions, the dose of the iodide being increased to fifteen grains. Ten days later the anæsthesia was much diminished, and a considerable amount of power had been regained; and in about another ten days he was able to walk. When discharged three months after admission he could walk fairly well; but the patellar tendon reflex was still absent. A note three weeks later stated that he could then walk three or four miles, and that there was decided patellar reflex in the right leg.

Dr. Buzzard remarked that this seemed to be one of the cases of "acute ascending paralysis," without muscular atrophy, first described by Landry, which in the majority of instances terminated in asphyxia from paralysis of the respiratory muscles. Erb, who remarks that the disease may progress downwards from the bulb, says that as a rule there is a very slight disturbance of sensibility, so marked a feature in this case. The lessened muscular excitability was also peculiar. Dr. Buzzard compared the case to one he had brought before the Society in 1874, which he believed to have been syphilitic in origin. The spinal origin of the disease was evident from the absence of patellar reflex, the widespread paralysis, and the diminished irritability to the induced current. If it were a myelitis it must have involved the posterior as well as the anterior cornua, or it might be produced by some thickening or exudation in the pia mater. In the case he had previously recorded he thought the symptoms might have been produced by a pachymeningitis, but he rather doubted this from subsequent experience. He had had two other similar cases. In all but one there was a strong history of syphilis. The rapidity with which they all recurred under anti-syphilitic remedies was in favour of their being due to that disease.

Dr. S. MACKENZIE said the case was a most peculiar one. There must have been some lesion in the cord itself. About ten years ago he had seen two cases of sudden and severe universal paralysis, both fatal. One was a case of a young girl, who after severe headache was attacked with vertigo and brought to the London Hospital partially insensible and completely paralyzed. Drs. Ramskill, Sutton, and Hughlings Jackson examined the case. Sensibility was retained, there was no change in the optic nerves, the extremities were livid. She was bled to thirty ounces, with temporary relief. After death no gross change was found in the nervous centres. Another case, about the same time, was that of a man who was suddenly seized with paralysis in all his limbs, followed by tonic spasms, almost tetanic in character. Here again no change was found after death. He mentioned these cases to show to what an obscure class they belonged, and how difficult it was to decide the seat and nature of the lesion. Indeed, it was very difficult with our present knowledge to determine what lesion would account for all these symptoms.

Dr. MAHOMED had seen a somewhat similar case with Dr. Broadbent some years ago. It was not so severe a case as Dr. Buzzard's. A young man was taken suddenly ill, with intense vertigo, great weakness, and almost constant hiccough. For two or three weeks previously he had suffered from headache.

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He became more or less paralyzed in the lower limbs; his face was expressionless and the pulse irregular. The case is published in Dr. Broadbent's lecture on "Syphilitic Nervous Diseases." The patient recovered rapidly under anti-syphilitic treatment; but for weeks afterwards he had disordered sensation—*e. g.*, when in a cold bath one-half of his body felt hot and the other cold, and *vice versâ*. One marked feature was the intensely offensive character of the urine as soon as passed. There was no retention, and it appeared as if the urine underwent some chemical decomposition shortly after its excretion. The fundus oculi in this case was normal.

Dr. BUZZARD, in reply, said that the anæsthesia of the skin of the face was most complete, but he had no note of the condition of the mucous membranes. He asked Dr. Mackenzie if there was any reason to suspect syphilis in his cases, which apparently belonged to the same category.

Dr. MACKENZIE said there was no evidence of syphilis in either of them.

Dr. GREENHOW remarked upon the analogies presented by the case with those of severe diphtherial paralysis, of which he related an instance where there was complete palsy of limbs, face, and tongue. Although there seemed no doubt that Dr. Buzzard's cases were due to the syphilitic poison, yet it was interesting to note their similarity to those due to diphtheria.

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Diabetic Coma.

PROFESSOR QUINCKE, of Kiel, contributes a paper on this subject to the *Berliner Klin. Wochenschrift*, No. 1, 1880, with special reference to a case of well-marked hereditary diabetes in a girl of sixteen, which terminated after several months' observation in the following way: Two days before death the patient was suddenly seized in the early morning, after a very copious movement of the bowels, with great weakness and desire to sleep, which lasted the whole day. In the evening she became very excited and frightened, was delirious, and screamed loudly. She then gradually passed into a state of stupor, at first answering when spoken sharply to, but afterwards becoming quite unconscious and incapable of swallowing, with very laboured respirations. In this state she died.

Professor Quincke considers that the term "diabetic coma," which was first introduced by Kussmaul (*Deutsches Archiv für Klin. Med.*, 1874), should be applied to the train of nervous symptoms just described. Kussmaul supposed that such symptoms depended on the presence of some poisonous material, probably acetone, in the blood. In the present case, not only towards the end of the patient's life, but also several months earlier when she suffered from sleepiness and dyspnœa without objective lung symptoms, the urine on treatment with perchloride of iron became of the colour of red Burgundy wine, a reaction which has been supposed by Gerhardt and others to indicate the presence of diacetic ether ($C_6H_{10}O_3$) in diabetic urine. Professor Quincke, however, observed that the urine of his patient had not the characteristic smell of this ether, and further that while normal urine to which even $\frac{1}{1000}$ part of it had been added smelt distinctly, it was necessary to add more than one or two parts per thousand of the ether to the diabetic urine before it smelt at all. He concludes, therefore, that the patient's urine contained some substance which combined with the diacetic ether until saturated by the latter, but experiments showed that this substance was not an alkali, grape-sugar, nor one of the normal constituents of the urine. Professor Quincke has also found that though the physiological effects of diacetic ether on animals somewhat resemble, they are not precisely the same as the symptoms of so-called diabetic coma. Dogs, for example, become restless and stupid after large doses of the ether, and they suffer from well-marked dyspnœa with accelerated breathing, which persists until death. On the other hand, the ether

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does not appear in the urine as such, nor does the breath, even after its injection into the blood, smell of it. He therefore regards the substances which cause the Burgundy-red colour with perchloride of iron in diabetic urine as one allied to diacetic ether, but not identical with it. He also remarks that since the symptoms of "diabetic coma" in the few hitherto reported cases vary considerably in character and in their degree of intensity, just as do those of uræmia, it is probable that, as in the analogous case of the latter condition, "it is not *one*, but several, substances which are formed in varying proportion by the abnormal tissue-change which is taking place, and by their accumulation lead to toxic effects, which, though capable of combination into one congruous picture, vary individually much more than, for example, the symptoms of poisoning by any particular alkaloid." The whole tenor of Professor Quincke's paper is to show how little we yet understand the true *rationale* of diabetic coma, and there is evidently a wide field open for investigation in this as in other branches of pathological chemistry.—*Med. Times and Gazette*, Feb. 28, 1880.

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Osseous and Articular Lesions in Locomotor Ataxy.

At a recent meeting of the Pathological Society of London (*British Med. Journal*, Feb. 14, 1880), Dr. BUZZARD exhibited three patients suffering from osseous and articular lesions in the course of locomotor ataxia. The history of one of these patients, a man, had been published. He was a typical example of tabes dorsalis, in whom the right hip-joint was completely disorganized (the head and neck of the femur having entirely disappeared) within a space probably of three months. He presented besides a curious bony process, nine inches long, developed in the superior tendon of the rectus femoris muscle of the same side. Of the two other patients, one was a widow, aged 50, an in-patient of the National Hospital for the Paralyzed and Epileptic. The patient, who had suffered for about eleven years from typical lightning pains in her legs and arms, had been affected for an equal time with attacks of the *crises gastriques* of Charcot, attacks in which there was pain in the stomach and chest, with continual retching and vomiting, occurring at irregular intervals. Other symptoms of tabes which she presented were ataxic gait, very small pupils not reacting to light, analgesia of the extremities, defective muscular sense, and absence of patellar tendon-reflex. In October, 1878, whilst walking quietly along the ward, her right femur was fractured through its neck. In July, 1879, whilst retching in bed, the left hip-joint suddenly "bulged out." Since then, she had been unable to use either leg. Mr. Adams, who examined the patient at Dr. Buzzard's request, reported the movements of both hip-joints free, but limited in some directions, with crepitation more marked in the right than in the left. On the right side, the top of the great trochanter was nearly level with the anterior superior spinous process; and on the left, the trochanter was extremely prominent and the bone enlarged. The conditions observed might be due, he thought, either to spontaneous fracture of the neck of the bone on each side, or to complete disorganization of the joint with atrophic changes and absorption of the head and neck of the bone on the right side, and similar changes on the left, associated with enlargement of the great trochanter from throwing out of new bone. The other patient was a married woman, aged 36, an out-patient of the National Hospital for the Paralyzed and Epileptic. For the opportunity of observing this patient, Dr. Buzzard was indebted to Mr. Henry Smith, under whose care she had previously been. Like the other woman, she had been subject (for upwards of ten years) to attacks, not only of typical lightning pains in her extremities, recurring at intervals of a month or two, and lasting three or four days, but also of very characteristic *crises gastriques*. These occurred at irregular intervals,

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between which she felt quite well. Her other symptoms had been staggering gait, diplopia, inability to stand with the eyes shut, partial colour-blindness, pupils insensitive to light, analgesia of the extremities. Three years ago, the right leg became red and swollen, though not painful; these symptoms subsided under rest, but in June, 1878, they recurred. In September, the swelling had gone down, but the knee-joint was useless. At the same time, the left leg began to swell, and was larger than natural when she was admitted into King's College Hospital at the end of the year. During her residence of one month in the hospital, the left leg became dislocated outwards and backwards on the femur. The muscles of the lower extremities were wasted. The patient was discharged at the end of January, 1879, with leather supports to each knee, which enabled her to move about with help. Mr. Broster, resident medical officer to the hospital in Queen Square, reported that it felt as though all ligamentous connections had disappeared from the right knee-joint. The ends of the bones could not be brought into apposition, and they were so loosely connected that the patient, before she put on the leather casing, had to bandage them together. It seemed as though the condyles had been bevelled off, and the end of the femur turned into a rounded and smooth stump, whilst the upper end of the tibia was bevelled off inwards. The patella was two inches above, and to the outside of, the end of the femur. Along the outer side of the inner hamstring was a firm, smooth, rounded mass, one inch by half an inch. On the left side, the tibia and fibula were dislocated backwards and slightly outwards. The condyles were rounded off, the inner one being enlarged. The patella lay over the end of the femur in front. The right shoulder had lately shown swelling, and there was crepitus on movement.

Dr. Buzzard remarked that, although nearly twelve years had elapsed since Charcot first described the arthropathy which was apt to occur in tabes, the subject had hitherto engaged but little attention in England. The first case described in England was by Dr. Clifford Allbutt in the *St. George's Hospital Reports* for 1869. The second was published by Dr. Buzzard in the *Lancet*, August 22, 1874. It was a typical example of tabes, with enormous swelling and disorganization of the knee-joint, which began when the patient had been affected at least five years with the disease, and proceeded with great rapidity. Besides the four examples which had occurred in Dr. Buzzard's practice, he had seen a few others of similar nature, but less broadly characteristic. In 1873, Dr. Weir Mitchell[1] alluded incidentally to the frequency of fractures in tabetic patients; and about the same time Charcot brought to the Société Anatomique of Paris the case of a woman (affected with tabes dorsalis) in whom, concurrently with great disorganization of certain joints, multiple spontaneous fractures of the neck of the left femur and of both bones of both forearms had occurred. At the present time, Charcot was disposed to consider the joint-changes and the spontaneous fractures as secondary manifestations of the fault of nutrition of the osseous tissue, dependent on an influence of the nervous system. According to him, the extremely rapid wearing away of the articular extremities was the principal character which distinguished tabetic arthropathy from arthritis deformans. In cases of spontaneous fracture due to tabes, it was common to find a more than usually exuberant callus thrown out. In the three patients present, there were, or had been, all the conditions which had been described as characterizing the osseous and articular lesions of locomotor ataxia. Extensive swelling, more often than not painless, and never confined to the joint itself, but extending also down the long axis of the limb, disappearance or disablement of the articular ligaments,

[1] American Journal of the Medical Sciences, July, 1873, p. 113.

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rapid erosion and absorption of the ends of the bones, were the features which marked two of the cases. In the other, spontaneous fracture certainly of one femur and, as he believed, also of the other, was coupled with the formation of what was probably a voluminous callus. The *crises gastriques*, which were comparatively rare in tabes, were frequent in cases of arthropathy. Altogether, in eight out of twenty-one cases of arthropathy, *crises gastriques* were also present. As the gastric symptoms were probably due to sclerosal invasion of the roots of the vagus nerve, Dr. Buzzard suggested the probability that change in some structure contiguous to them in the medulla oblongata might be the lesion giving rise to the altered nutrition in the osseous system, and he thought that it was in this quarter that pathological anatomy might usefully direct its energies.

Dr. GOWERS showed an elbow-joint from a patient with locomotor ataxy (aged 45), who, four years after the disease commenced, and when the symptoms were well marked in both arms and legs, fell, striking the elbow. He used the arm next day without inconvenience, but the joint rapidly swelled, and a medical man whom he consulted thought some bone had been broken. Two months later, when seen, the joint was enormously swollen, fourteen inches in circumference, abnormally mobile, and loose bone could be felt. There was not, nor had there been, any pain. The swelling slowly lessened. Six months later, he died from a painless but extreme pleural effusion. The cord presented the usual lesion. In the elbow-joint, the external condyle of the humerus had been split off, and the coronoid process of the ulna was also fractured. The ends of the bones had lost most of the cartilage and were eroded. The synovial membrane was covered, between the bones, by villous projections, some fine, others large. There were also two pieces of bone which could not be accounted for by fracture; one, about half an inch square, was above the coronoid process, and projected into the cavity of the joint; the other was a plate of bone in the outer wall of the synovial sac, about an inch square, but apparently in two pieces.

Mr. HUTCHINSON exhibited a series of casts of bones presenting changes in locomotor ataxy, which had been sent over by Professor Charcot. There were the bones forming an elbow-joint which showed all the changes described by Dr. Gowers. Another cast showed a wearing away of the upper part of a femur, associated with an ununited fracture of the neck of the bone. A third showed extreme shortening of a femur after fracture. He showed also some casts taken from a living patient in the Salpétrière. The left humerus was dislocated beneath the clavicle, the head of the bone being apparently little altered. There was no pain in the joint, and the arm could be freely moved in all directions without pain. The opposite humerus was dislocated on to the dorsum of the scapula, the head of the bone being partly absorbed. There was dislocation of the right knee-joint, the tibia and fibula being twisted out and displaced upwards behind the femur, the lower end of the latter bone being also partially absorbed. He had seen a case of locomotor ataxy which had begun with severe *crises gastriques*, that rendered the patient quite unable to work. This symptom passed away, and was followed by pain and weakness in the right hip-joint, which symptoms were attributed to rheumatoid arthritis. Three years later, amaurosis set in, beginning with defective sense of colour, and rapidly going on to blindness, with white atrophy of the disk. Subsequently, many other symptoms of locomotor ataxy became developed, and the condition of the right hip was such that either dislocation on to the dorsum ilii and absorption of the head must have taken place, or there existed an ununited fracture of the neck of the femur. The patient had latterly very much improved, and, except that the right leg was considerably shortened, he walked about very well. The President narrated another case which had been under observation for fifteen years. The symptoms began

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with amaurosis, which, however, never became complete. Subsequently, various symptoms of locomotor ataxy developed. The patient walked with a limp. After death, an ununited fracture of the neck of the femur was found. There was no history to show when the fracture had taken place.

Mr. MACNAMARA thought the disease of the bones was probably the result of the synovial distension rather than of any central nervous condition. He considered the condition to be not unlike that seen in chronic rheumatoid arthritis. He narrated a case of joint-disease occurring in locomotor ataxy that had come under his own notice.

Dr. ALLEN STURGE narrated a case of locomotor ataxy which had been recently under his care, in which the earliest symptom was the occurrence of *crises gastriques* of a very intense character, lasting over a period of three years. These were followed by great enlargement in the right knee-joint, and somewhat later by very well-marked symptoms of locomotor ataxy. The knee-joint recovered without much alteration in the bones. He had seen two cases of spontaneous fracture in locomotor ataxy; in one case, a man with well-marked symptoms of the disease had fractured the right femur at the middle of the shaft whilst putting on his boot, and he had subsequently fractured the left leg by an equally slight movement. Both fractures had reunited. The other case was a woman in the Salpétrière, who had sustained a spontaneous fracture in the left leg whilst under observation, and a few days later had fractured the right humerus, whilst trying to move her position in bed.

Dr. BROADBENT had treated one of the patients exhibited by Dr. Buzzard through some of the earlier stages of her illness, and he gave further details of the case, a remarkable point being that, during her attacks of gastric pain, she frequently ran about the ward without giving any sign of ataxy of the legs. He was not inclined to accept Dr. Buzzard's view of the connection of the *crises gastriques* with joint-disease. He had seen six cases of *crises gastriques* associated with locomotor ataxy, and in only one case was there joint-disease.

Dr. BUZZARD, in reply, said he was prepared to find that surgeons would not consider there was anything remarkable about these joint-affections. In rheumatoid arthritis, in by far the larger number of cases, the smaller joints were first affected, but they were never affected in locomotor ataxy. The amount of liquid effused in the latter disease was often much more than was seen in rheumatoid arthritis. In many of the cases of ataxy, moreover, there was a remarkable retrogression, which did not occur in anything like the same degree in the rheumatic affection. The rapidity with which the changes were produced in ataxy was also peculiar, a few days sometimes sufficing for the complete destruction of a joint. He agreed with Mr. Butlin in thinking that probably all the structures of the joints might be primarily affected.

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On the Treatment of Chronic Dysentery.

Dr. C. H. RALFE, Senior Physician to the Seaman's Hospital, concludes a statistical paper on this subject (*Lancet*, Feb. 28, 1880) with the following summary:—

The castor-oil treatment may be advantageously employed in all stages of the disease—either at an early period, when the disease is subacute and the ulceration still extending, or when the process of repair is going on, and we are dealing merely with an ulcerated condition of the bowel; or when the ulcers have healed, and there remains a thickened and contracted condition of bowel, caused by cicatrization, with a mucous surface extremely liable to catarrh. It is apparently beneficial by causing a soft non-irritating flux from the small intestines,

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which sweeps before it scybala, decomposing shreds of mucous membrane, or food, and offensive discharges accumulated in the lower bowel. It is not improbable, in addition to this mechanical action, that the flux from the small intestine may have some remedial action on the ulcerating surface analogous to that said to be produced on the inflamed mucous membrane of the bladder by the injection of normal urine. In the later stages of the disease, when cicatrization is completed, or nearly so, castor oil relieves the constipation, the consequence of the thickened coat and diminished calibre of the bowel, and it also appears to diminish the tendency to catarrhal relapses. With respect to the dose, in twenty-one cases two drachms of the oil were administered every alternate night. Of these, six were discharged cured. In the remaining seventeen cases the oil was given twice a week in half-ounce doses, and the number of cases discharged cured amounted to eleven. Each dose of castor oil was guarded by the addition of eight drops of laudanum. The administration of castor oil does not usually lead to an immediate diminution of the number of stools, its first effect being to improve their character. By the end of the first or second week the stools become more feculent and less offensive, and the tormina and tenesmus are less urgent. The stools then gradually fall in number, preserving often a regular gradation, interrupted, however, by repeated relapses, each relapse, if treated promptly with ipecacuanha, being more manageable and of shorter duration.

When castor oil alone was relied on, the results were not so satisfactory as when either a mixture of bismuth or hæmatoxylon was given at the same time, or at some period during treatment. Indeed, the most satisfactory results were obtained with half an ounce of castor oil administered twice a week, and a mixture of hæmatoxylon given three times a day. I cannot, however, at present come to any decision with regard to the respective merits of bismuth and hæmatoxylon. In the majority of the cases treated with bismuth the castor oil was administered in two-drachm doses, repeated every other night, and the cases treated with hæmatoxylon with half-ounce doses of oil only twice a week. The more favourable result obtained with the latter treatment may be due to the larger but less frequent dose of oil. Both have a different action, bismuth diminishing the catarrh of the mucous membranes in the neighborhood of the ulceration; hæmatoxylon[1] by restraining undue peristaltic action throughout the intestinal canal, allowing digestion to be more completely performed, and in this way improving the general nutrition, and diminishing the irritation of the ulcerated surfaces by lessening the passage over them of undigested matters. In four cases turpentine was administered in conjunction with the oil. Turpentine seems to be indicated where we have a large ulcerated surface, and the discharge is offensive. A considerable number of cases treated solely with turpentine were collected for me by my friend, Dr. Andrew Duncan, when house-physician at Greenwich, the notes of which I have unfortunately mislaid, or I would have appended them to this paper. The results obtained were encouraging, but, as the turpentine was sometimes uncertain in its action, I have not continued its use, except occasionally as a supplement to castor oil.

With regard to the topical application of substances to the ulcerated surface by means of injections, in only one of the cases quoted was this tried, the administration of the oil being stopped during the case. The injection, which consisted of bismuth, was given twice with the effect of at once increasing the number of stools, and adding greatly to the patient's distress. The enemata were at

[1] Hæmatoxylon, according to Pereira, though classed as an astringent, does not constipate or disorder the digestive functions.

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once discontinued, and the castor-oil treatment resumed, and the patient made a good recovery. In other cases where I have tried bismuth injections, and injections of other substances, the results have not been encouraging. In some cases where ulceration was low down in the bowel the injections sometimes seemed to do good.

Ipecacuanha powder was given in large doses in seven cases, six for relapses during castor-oil treatment, and in one case on admission. The dose ranged from twelve to twenty grains of the powder. In two cases in which the larger dose was given vomiting was produced; but with fifteen grains nothing beyond a feeling of nausea was complained of. Ipecacuanha is indicated whenever in the course of treatment the stools that had become feculent begin to lose that character, accompanied or preceded by abdominal pain and tenderness, with an increase of blood and slime in the stools and a return of tenesmus. A very sudden diminution in the number of stools passed daily is often a premonitory indication that a relapse is about to occur. As each relapse adds to the already existing debility and protracts the disease, it is of the utmost importance either to prevent their occurrence or cut them short if they have occurred. Therefore, at the first indication, a full dose of ipecacuanha powder should at once be given. If administered sufficiently early the urgent symptoms will be found to pass away, and the character of the stools improve, generally at the end of twenty-four hours; but if delayed till the relapse is well established it will be days before the patient will recover lost ground. Too much importance, therefore, cannot be laid on the *necessity of watching for the earliest indication of a relapse*, for on its early recognition and prompt arrest depends the ultimate success of all treatment of chronic dysentery.

All cases complicated with constitutional conditions, such as syphilis, ague, anæmia, scurvy, and the like, call for appropriate treatment in addition to that required for the dysentery. With reference to the use of iron, the solution of the pernitrate agrees very well with most patients. Some, however, are very intolerant of iron in any form administered by the mouth. In these cases it may be advisable to try the subcutaneous injection of the dialyzed solution.

Rest and strict attention to diet are essential to the cure of chronic dysentery. So long as there is tenesmus and much straining, and the stools contain blood and slime, the patient should be confined to bed, or at least remain in the horizontal position. When the stools become feculent he may be permitted to sit up for a few hours daily, but till the stools have become consistent he should not be permitted to go out of doors; even then only in dry, warm weather. Exposure to cold and damp almost invariably causes a relapse. Nourishment should be given only in small quantities at a time. When the symptoms are subacute, beef-tea must be chiefly relied on, and if the exhaustion is great fluid extract of meat, or juice of raw beef, must be freely administered. As the more urgent symptoms subside, boiled fish may be given, and then minced meat (made from fresh, not cooked meat). The effect, however, of the changes to a more solid diet should be carefully watched, for if given too soon, or in too large quantities, it will provoke a relapse. The best way is to begin with a very small ration, and increase it daily. Farinaceous food should be given in very small quantities, if at all. The digestive powers being usually enfeebled in chronic dysentery, some portion of the starchy matter may escape conversion into sugar, and, by decomposition in the large intestine, the unconverted starchy material will give rise to flatulence, and to the formation of lactic acid. The same caution is necessary with regard to milk, which if not speedily absorbed, rapidly undergoes lactic acid fermentation. Coffee and alcohol in any form are injurious, and should be

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abstained from. Fresh fruits in small quantities and lime-juice are beneficial, especially if there is a scorbutic taint, which is very common.

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Double Abscess of the Liver Discharging through the Right Kidney and the Bladder.

LACAZE reports (*La France Médicale*, December, 1879) a case of abscess of the liver opening through the kidney, which is certainly rare and deserving of record. The patient, a young man, aged 24, was a native of the Island of Réunion, but had lived in France since his fifth year. He first came under the notice of the author in August, 1878, when he presented himself for examination in order to find out whether he had been properly cured of a pleurisy of the right side, for which he had been treated. At that time he still had a little pain in the side, but no cough or difficulty in breathing, though he was very thin and pale. An examination of the lungs failed to reveal anything wrong, and Dr. Lacaze accordingly gave it as his opinion that the pleurisy had completely resolved. He did not see the patient again till the following November, when he was called to attend him, and found him presenting the following symptoms: he was very much emaciated, the skin was hot and of a pale yellow colour, he had no appetite, and had occasional diarrhœa; there was well-marked and constant pain in the right side; the pulse was 120–125. The liver extended below the border of the false ribs and was tender to the touch. The pain was relieved by the application of a blister to the right hypochondrium, but two days later a slight prominence was noticeable in this region and careful palpation revealed deep-seated fluctuation. On the fourth day, on visiting his patient, Dr. Lacaze found him much improved, and was informed by him that he had passed a large quantity of urine during the previous night, and on examining a specimen of it he found it to contain a considerable amount of pus. The prominence mentioned above had disappeared. The patient continued to improve after this for a short time, but towards the end of January, 1879, all the symptoms returned with increased violence, and on examining him it was found that the prominence had reappeared, fluctuation could again be noticed, and the urine, though generally clear, contained pus from time to time. Two days later the tumour had increased very much in size and an exploratory puncture proved the presence of pus. After repeated applications of Vienna paste, the abscess, being then close to the surface, was opened, and the escape of 900 grammes of thick chocolate-coloured pus left no doubt of its being connected with the liver. A drainage-tube was inserted to a depth of 10 centimetres, the cavity washed out twice daily with a solution of carbolic acid, and a preparation of iodine and Vichy was given internally. The suppuration diminished gradually, though the pus still maintained the same character, and finally a fistulous opening was established and kept up by pieces of lint. The pus in the urine was of a pale yellowish color. All the unfavourable symptoms disappeared. At the solicitation of his family, the patient returned to Réunion; on the voyage the suppuration increased, and after reaching home, he died of exhaustion at the end of a month. No necropsy was made. In his remarks on the case, which he presented before the Society of Practical Medicine at Paris, the author calls attention to the rarity of this mode of discharge of an abscess of the liver, though similar cases had been reported, among others by Rayer and Neumann. He has seen two cases of abscess of the liver which had opened into the bronchial tube, and a cure followed; but where the discharge had taken place into the intestine, or where they had presented externally, and been opened either by the knife or caustic, a fatal result had always supervened. Taking these facts into consideration, though perhaps something

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might be hoped for from Dieulafoy's aspirator, he was inclined to agree with the experience of those who saw such cases frequently in tropical climates, that it was best to refrain from surgical interference, and allow them to follow their natural course.—*London Med. Record*, March 15, 1880.

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Acute Nephritis in Typhoid Fever.

Dr. GREENHOW, at a late meeting of the Clinical Society of London (*Lancet*, March 20, 1880), communicated notes of a case of Typhoid Fever with Acute Nephritis and Profuse Hæmaturia without Dropsy. A porter, aged twenty-one, was admitted into the Middlesex Hospital under Dr. Greenhow's care, on November 25, 1879, the fifth day of a fever, which set in with considerable severity, the second day of the attack being marked by vomiting, cough, and slight sore-throat; and in the night he began to have painful micturition, and noticed that his urine was almost black in colour. On admission, pulse 108; temperature 103.2°; urine sp. gr. 1012, of a deep red colour, from admixture with blood, containing albumen—one-half, numerous blood-globules, blood and epithelial casts. He was very prostrate, and suffered from muscular pains. There was impaired resonance with bronchial breathing and scanty crepitation at the apex of the right lung, but no râles elsewhere. The cardiac second sound was reduplicate. Abdomen was tympanitic, and there were tenderness and gurgling in the right iliac fossa. The liver and spleen were not enlarged. There was no diarrhœa nor rose-spots. Cold sponging was ordered and a fluid diet. At 9 P. M. pulse 126; temperature 104.6°. The illness ran a rapid course, prostration increased, the pulse-rate ranged between 100 and 130; the temperature 97.6° to 104.8°. Restlessness and delirium, passing towards the close into somnolence with occasional subsultus in arms and legs, were observed. The tongue became dry and fissured. The urine continued to be blood stained, but the amount of blood and albumen diminished. The abdominal distension persisted, and characteristic diarrhœa appeared on the 27th, continuing till death, which took place on December 8th, the thirteenth day of his illness. The autopsy revealed mitral thickening and enlargement of the heart, and marked pulmonary hypostasis. Two or three sloughing ulcers occurred at the lower end of ileum, and one in the healing stage, Peyer's glands and solitary follicles being elsewhere swollen. Liver and spleen greatly swollen and softened. Kidneys, weighing twelve and fourteen ounces respectively, were intensely gorged; their secreting tubules were filled with swollen granular epithelium, and between the tubules there was small-celled infiltration.

Dr. Greenhow remarked that he had not met with a similar instance. Albuminuria, when it occurs, is usually a late event in typhoid fever; according to Liebermeister, not until the fever has reached its height; and Murchison says it rarely appears sooner than the third week, and is due either to congestion or to parenchymatous degeneration, not as due to acute nephritis. Dr. Murchison also says that when copious hæmaturia occurs it is generally associated with other hemorrhages. The only parallel instance to the present case Dr. Greenhow had found on record was a reference by Liebermeister to two cases of uræmia from acute parenchymatous nephritis in the Basle hospital, in 1872, soon after admission, and during the height of an attack of typhoid fever. The most careful inquiry failed to elicit any history of previous disease in the present case; so that it seemed as if the trivial cardiac hypertrophy and mitral thickening were due to the very intense nephritis. The points then of chief interest were the concurrence of typhoid fever with such intense nephritis, the entire absence of dropsy, and the severe and rapid course of the disease.

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Dr. CAYLEY said that of late years in the London Fever Hospital there had only been one case of typhoid fever complicated with acute nephritis, which came on during convalescence from the fever. Two years ago a patient in the same hospital had profuse hæmaturia, but Dr. Cayley had never seen a case with so rapid a course as that described by Dr. Greenhow. The presence of a healing ulcer would suggest that the period of the fever was later than was apparent.

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Suppurative Pyelitis treated by Incision.

Dr. HABERSHON at a late meeting of the Clinical Society of London read the notes of a "case of pyelitis; discharge of pus; incision in the loin; recovery." The patient, aged twenty-eight, a carman, of phthisical stock, was admitted into Guy's Hospital on the 29th January, 1879. Four months before, he had noticed blood in the urine, and had experienced pain at the end of the penis during micturition. For some time previously he had had pain in the left arm, side, and thigh. A month later a swelling appeared in the left loin, and the severity of the pain compelled him to keep in bed. One night the swelling disappeared, and he passed about half a pint of pus with his urine, and continued passing a little pus for three or four weeks. On admission, he appeared ill and distressed, his sleep was disturbed, and movement gave pain. There was tenderness in the left loin; and dulness from the eighth rib to the crest of the ilium on this side, as well as fulness, but no defined swelling. Harsh breathing at apex of right lung, but no dulness except at the left base, where breath-sounds were absent. The urine was clear, specific gravity 1022; free from pus, blood, albumen, sugar, or phosphates; it contained a few squamous epithelial casts. Evening temperature 102°. Morphia was given to relieve pain.

Diagnosis—disease of pelvis of left kidney, probably strumous; but it was doubtful whether there had been tubercular disease at the commencement, and the symptoms did not indicate calculus.

On February 8th six ounces of clear, light-green fluid, followed by two ounces of pus, were withdrawn by means of a fine trocar and canula introduced between the ribs and iliac crest. The fluid had a fetid odour; it contained no urea or uric acid, nor hydatid, but pus-cells and fibrin. On the 14th the temperature was high; the tumour distinctly felt.

Mr. Davies Colley made an incision under carbolic spray in the left loin, about three inches in length, just beyond the edge of the quadratus muscle. A firm, thick-walled abscess was found and laid open, evacuating nearly two pints of pus. The abscess extended beneath the ribs to about the eighth rib, and downwards about two inches below the crest of the ilium, forwards to the edge of the rectus. Its walls were lined with calcareous material. A drainage tube was introduced, and the wound dressed antiseptically. Quinine was given. On March 21st temperature 102°, the wound had healed, and Mr. Colley reopened it, evacuating half an ounce of pus. From that time he continued to improve, leaving hospital on May 15th. The sinus was still left open, and he was directed to come to the hospital every third day, to have the side dressed.

Dr. Habershon remarked that the family history and appearance of the patient suggested the probability of tubercular disease. It was not easy to give a decided opinion as to the cause of the hemorrhage. The pain at the end of the penis suggested vesical irritation, as from calculus. Perhaps a calculus had blocked the ureter, and led to distension and suppuration in the pelvis of the kidney; but the alternative view of tubercular disease or caseous inflammation, followed by chronic suppurative pyelitis, was more feasible, and was borne out by the semi-calcareous state of the diseased pelvis. The relief afforded by the operation was

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so marked that Dr. Habershon felt sure that had it been postponed the man would soon have become exhausted, and he suggested that it might be more frequently resorted to in such cases with benefit and the saving of life. It would be well if the whole gland could be safely removed. He mentioned a case of a man who, from the age of sixteen or seventeen, suffered from periodic discharges of pus from the bladder, the discharge of pus being preceded by the formation of a large projecting sac, extending from the ribs to the iliac fossa on the right side. He lived to the age of sixty-four, dying from cancer of the remains of the kidney, and it was found after death that a calculus blocked the ureter, and that pus collected until the distension of the ureter made the passage free.

In a note appended to the case that had been read, Mr. Colley states that the chambered character of the sac indicated its being an enlargement of the pelvis. The discharge continued until the end of October, and when last seen in November the wound had been healed two weeks, and no signs of any abdominal tumour remained.

Mr. GOLDING BIRD endorsed Dr. Habershon's statement as to necessity for early operative interference, and further suggested that surgical aid might be had recourse to for the purpose of diagnosis. In a case under his care, with painful symptoms of prostatic and probably also renal disease, where there was a swelling in the neighbourhood of the kidney, he cut down upon that organ, and explored it thoroughly. The operation gave no relief, but it was performed only for diagnosis. When there were symptoms of calculus in the kidney, surgical aid might be called in to establish the diagnosis. It only required a simple incision, and the risk to the patient was *nil*.

Mr. WALSHAM said there was another method by which this end could be attained—viz., exploration by the whole hand in the rectum. Simon had thus detected stone in the renal pelvis. He (Mr. Walsham) had employed this method in five cases, and had easily reached the kidney. He had never found any ill result occur.

Dr. HABERSHON said there was sometimes great difficulty in distinguishing between an abscess of perinephritic character and one of pyelitic origin. The value of operation was well illustrated in the case he had brought forward.—*Lancet*, Jan. 31, 1880.

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Hyaline Degeneration.

A kind of degeneration of the vessels and substance of the lymphatic glands, which, although it has probably been observed in this country, does not appear to have been regularly investigated or named, has been recently described by WIEGER, a pupil of Recklinghausen's, in *Virchow's Archiv* (vol. lxxviii., part 1, page 25), and deserves the careful attention of pathologists. The disease, for which the name of "hyaline degeneration" has been proposed, naturally presents different characters, according as it effects the vessels or the proper substance of the lymphatic glands. When the former are the seat of the change, the smallest bloodvessels of the gland are found to be converted into hyaline tubes, their wall being greatly thickened and their lumen narrowed. The hyaline material possibly consists of a cellular infiltration of the vessel-coats, especially the adventitia. The final stage of the process consists of a diffuse calcification. Chemically, the hyaline substance is to be distinguished from the connective tissues, and to be classed with the colloid materials. With respect to the cause of this degeneration, the most important factors appear to be circulatory disturbances in conditions of dyscrasia or senility.

The naked-eye appearances of glands, when their vessels are thus affected, are not characteristic until a section is made, when a perfectly typical picture is pre-

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sented. Instead of the familiar characters of a lymphatic gland, there is seen, upon a somewhat congested ground, an extremely fine and delicate network of whitish, more or less opaque, somewhat prominent trabeculæ, which divides the section into a number of small fields of tolerably normal appearance. To the fingers the trabeculæ feel firm and even sandy, and nodules occur at their points of communication. Such networks are by far most abundant in the peripheral portion of the gland. The degeneration affects the different groups of glands very unequally; the lumbar glands apparently seldom escaping in any case, and the inguinal and axillary glands being next most commonly invaded, whilst the mesenteric glands have never been found involved. Altogether, Wieger found the disease in ten cases in the course of 600 post-mortem examinations made during a period of nine months.

With respect to the minute anatomy of the process, it is found to be confined to the follicular substance of the lymphatic glands, and never to invade the lymph-paths. The disease is readily referred to the capillary vessels, which are enlarged by thickening of their walls, whilst their canal is diminished or even obliterated; and this by the presence of a highly refractive, translucent substance which is not unlike the matrix of hyaline cartilage. Careful examination sometimes revealed traces of the tunica intima within the zone of new material, and even appearances of the remains of a tunica media, so that the degeneration would appear to have its seat, in these instances, in the adventitia of the capillary arteries. Treatment with staining fluids and other reagents failed to reveal the presence of nuclei or of anything resembling the contour of a cell in the degenerated coat. The gland-tissue lying between diseased vessels may be atrophied by pressure, but otherwise remains healthy. The process appears to proceed from the centre of the lymphatic follicles outwards. The last stage of hyaline degeneration seems to be calcification, and the removal of the calcareous particles by means of an acid leaves the substance translucent as before. Of special interest is the reaction of the hyaline substance to the ordinary tests used in morbid histology. Iodine solution colours it of a light straw-tint only, and the amyloid reaction is entirely wanting. Water does not affect it; and the mineral and acetic acids hardly cause it to swell, increase its translucency, but bring out no nuclei in it. Alkalies produce marked translucency, so that the substance becomes vitreous and absolutely amorphous, whilst it swells considerably. It shrinks when boiled in water, and is not dissolved even when the process is prolonged. Carmine, picro-carmine, and eosine stain it deeply; hæmatoxyline and aniline-brown not at all. From these reactions it may be gathered that the hyaline substance is most nearly related to colloids, and has little affinity with condensed connective tissue and no affinity with amyloid material.

What is the genesis of this hyaline substance, and what are the beginnings of the process? In a single case only Wieger found an appearance which may possibly represent the first stage of the change, namely, a fusiform swelling of individual vessels, due to the development of cells which lay closely adherent to the vessel-wall and to each other, not unlike leucocytes, or fused together in such a manner that their contours were indistinguishable. Careful examination revealed that the cells were actually an infiltration in the adventitia of the vessel, and that, where the cell-contours had disappeared, the resulting masses bore a strong resemblance to the "hyaline" substance. But whether this appearance actually advances to hyaline degeneration, Wieger declares himself unable to determine. Wieger believes that this hyaline degeneration has no relation to the arterio-capillary fibrosis of Gull and Sutton. It is probably almost identical in most of its characters with the peculiar change which is found in the vessels of

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the cortex cerebri and pia mater in dementia paralytica; but there is at present no evidence that the two processes occur at once in the lymphatic glands and in the cerebral vessels—that is, that they are one and the same.

Besides the hyaline degeneration of the vessels of the lymphatic glands just described, Wieger twice met with a somewhat similar, if not identical, change in the proper tissue of the glands, which, however, he believes to be due rather to a chronic inflammatory process. When the process is advanced, the glands are absolutely white or grayish-white, highly anæmic, and not unlike amyloid liver in consistence. The subjects of the disease had died in both instances in a condition somewhat resembling acute tuberculosis.—*Medical Times and Gazette*, March 27, 1880.

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Estimation of Uric Acid by its reducing Action upon the Ammoniated Cupric Test.

At a late meeting of the Royal Medical and Chirurgical Society (*Lancet*, April 3, 1880) Dr. F. W. PAVY read a paper on this subject, of which the following is an abstract.

The author first refers to the importance of being able to determine readily and with precision the amount of uric acid voided for the purpose of studying the conditions which tell favourably and unfavourably upon the uric-acid diathesis, and as a guide to treatment during the management of a case in which the uric-acid deposit occurs. The old methods of estimating uric acid could not be spoken of as meeting the requirements of the medical practitioner either as regards facility of application or precision. The method which the author desired to bring before the notice of the Society is founded upon the reducing action which uric acid, like sugar, exerts upon the oxide of copper. The ordinary form of copper test is most susceptible of application to the purpose, but the ammoniated cupric liquid, which the author has recently introduced[1] for the quantitative determination of sugar is perfectly available. With this test the reduced oxide, instead of falling as a precipitate, is held in solution by ammonia, and a simple decoloration of the liquid occurs as the reduction proceeds.

The mode of preparation and employment of the test having been described, it is stated that the results obtained from observations conducted with known quantities of pure uric acid so closely harmonized with the expression that three atoms of oxide of copper are reduced by one atom of uric acid, as to justify this formula being adopted as the basis of calculation for the process. For the determination of the uric acid in a specimen of urine the reducing power is taken before and after treatment with acetate of lead. The first or total reducing action is in part due to uric acid and in part to the small amount of sugar which urine naturally contains. The addition of acetate of lead effects a precipitation of the uric acid, and the reducing power now obtained represents the reducing power of the urine, minus that of the uric acid it contained. By the difference between the two determinations the amount of uric acid is ascertained. The mode of calculation is given. Results are furnished showing the precision with which known quantities of uric acid added to urine are revealed by the process. To be certain that what is taken as expressing uric acid is in reality due solely to the presence of uric acid, the process was checked against the actual collection and subsequent determination of the uric acid. Results are first given to show that the collection and subsequent determination of uric acid can be carried out in a manner to afford reliable information, and then the two processes, the determination from the difference in the reducing power before and after precipitation with acetate of lead, and by

[1] Proceedings of the Royal Society, vol. xxviii. p. 260, and vol. xxix. p. 272.

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actual separation of the uric acid, and its subsequent estimation, were applied to various specimens of urine, and the results compared. The figures obtained present a close accord, and justify confidence being placed in the results derived from the process brought forward.

The author thus concludes his communication: "This completes what I have to say about the process I have described for the estimation of uric acid. The next matter to deal with is the result obtained by its application to the urine under various conditions of health and disease. This is a matter of some magnitude which I must reserve for the subject of a future communication, but I may here state that, according to the observations I have conducted, the figures that have been hitherto given as representing the amount of uric acid present will have to undergo considerable alteration." Dr. Pavy then exhibited the process above described to the Society, and further added some interesting remarks upon the estimation of the acidity of the urine by means of phenol-phthaline, a test which he also exhibited. He said that he had made comparative observations upon the amount of uric acid and the acidity, but his conclusions were not numerous enough for generalization.

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Pilocarpin in the Treatment of Prurigo.

Professor Oscar Simon, of Breslau (*Berliner Klinische Wochenschrift*, No. 49, 1879), has used preparations of jaborandi with good effect in cases of prurigo both in adults and children. Hebra's prurigo, which is a rare disease in England, is comparatively common in Breslau, and forms about 3 per cent. of the non-venereal cases in the skin clinic of the University; this method of treatment, therefore, is of less interest to us than to the Germans, but it deserves at least a short mention here. Either subcutaneous injections of one gramme of a 2 per cent. solution of hydrochlorate of pilocarpin or a syrup of jaborandi were used. The latter is an infusion of three parts jaborandi leaves in fifteen parts boiling water, filtered and mixed with eighteen parts sugar. The dose for an adult is two or three tablespoonfuls, for small children a teaspoonful, for older children two teaspoonfuls. After the dose the patient was always wrapped up in blankets for two or three hours. The salivation and other well-known effects of pilocarpin accompany the sweating, which seems so valuable to the pruriginous patients. Professor Simon compares its influence to that of a bath or an ointment. It softens the dry, harsh skin, and probably relieves the openings of the sweat-ducts of the accumulations of epidermis which, as the microscope shows, blocks them in prurigo. On the average, a fortnight's pilocarpin treatment temporarily cures moderately severe cases of prurigo, while a month suffices for all but the very worst. We need scarcely add that it does not permanently cure; relapses occur as under other plans of treatment. Professor Simon has not found pilocarpin of use in other skin affections. In two or three cases of alopecia the result was undecided. He makes some valuable remarks in the second part of his paper on the natural history of true prurigo; especially he points out the difficulty of diagnosing it accurately in the early years of life owing to the similarity of the lesions to those of infantile prurigo (*Lichen urticatus*). He considers that we cannot be absolutely sure of the diagnosis before the end of the fourth year. "A prurigo which runs on after this is incurable." We quote Professor Simon's conclusion without comment, except that we must not be understood to give it our unqualified assent. As to etiology, he agrees with Hebra that the parents of the pruriginous, and especially the mothers, are often phthisical, but he has never seen a case of hereditary transmission, though more than one child in the same family is sometimes affected.—*Med. Times and Gazette*, Feb. 21, 1880.

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Surgery.

Relief of Pains in Locomotor Ataxy by Nerve-Stretching.

LANGENBUCH (*Berlin. Klin. Woch.*, No. 48) relates a case of well-marked and very painful locomotor ataxy, in which the acute and sudden attacks of agonizing pain caused the patient great suffering in spite of sedatives. Langenbuch, in this case, finding that the left sciatic nerve was specially affected, tried stretching of this nerve with the best results. The wound healed under antiseptic precautions by first intention; the motor and sensory paralysis disappeared after a few days, and the pains did not recur. Encouraged by this, Langenbuch operated also on both the crural nerves and the right sciatic nerves in the same way, and with the same happy effect on the pains. When the patient made his first attempt at walking, he asserted that he now knew again what he had under his feet, and that he could walk better; and Langenbuch ascertained the unexpected fact that the ataxy had completely disappeared. He proposes at a future time to report his further observations on this case; meantime, he recommends his colleagues, especially in recent cases, to put the treatment by nerve-stretching to further test.—*London Med. Record*, March 15, 1880.

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Cure of Neuralgia by Nerve-Stretching.

In the *St. Petersburger Med. Wochenschrift*, December 20, 1879, Dr. E. MASING reports a case of supra-orbital neuralgia of over three years' standing, which had obstinately persisted notwithstanding various plans of treatment. Although there was tenderness at the point of emergence of the supra-orbital, the most intense neuralgia was in the track of the naso-ciliaris, the infratrochlear, and the ethmoidal nerves. These nerves being out of reach, he determined to attempt to act on them by a thorough stretching of the supra-orbital. This he effected by a free opening of the orbital cellular tissue, exposing the nerve in its entire length along the roof of the orbit. Near the orbital fissure he surrounded it with a blunt hook and so stretched it (inwardly) that its adhesions to the bony roof were broken up. Ten days after the operation the upper eyelid was freely movable. There was complete anæsthesia of the forehead on that side as well as of the cornea. The neuralgic pains gradually lessened in severity, but did not entirely cease for several months. The anæsthesia continued for nearly six months. —*London Med. Record*, March 15, 1880.

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Two Cases of Nerve-stretching.

In the *Berliner Klin. Wochenschrift*, No. 46, 1879, Dr. SCHÜSSLER, of Bremen, describes a successful application of nerve-stretching to a case of mimic spasm of the left side of the face in a lady of thirty-nine. All other treatment having proved unavailing, and the severity of the twitchings being such that the patient's health was suffering from the disturbance of her nightly rest, he exposed the trunk of the facial nerve, with antiseptic precautions, separated it from its sheath, and with a hook forcibly pulled it outwards. After one or two attempts the twitchings, which at first were excited by touching the nerve, ceased in all parts supplied by it except the angles of the mouth and neck. By stretching the branch supplying these parts separately the twitchings were entirely checked. It should be stated that the trunk of the nerve was in a congested state. The operation took place on January 23, 1879; on April 12 the paralysis of the left facial muscles caused by the nerve-stretching had disappeared, there were no

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twitchings, and the patient could feel perfectly everywhere except in the lobe of the left ear. She was well in every respect except that at intervals of ten to fourteen days she felt pain in the left brow and upper part of the left cheek, which was worse at the monthly period. She had experienced similar pain, but much more frequently, before the operation. On June 6, 1879, she reported that her health "left nothing to be desired." The twitchings, we should add, were first noticed in the summer of 1871. The second case is published in No. 48 of the same journal, 1879. A man of forty was admitted into the Berlin Lazarus Hospital under Dr. Carl Langenbuch on August 11, 1879, with symptoms of marked locomotor ataxy, with very severe "electric pains" in all the limbs, which could not be relieved by any sedative. The left sciatic nerve seemed the seat of the most intense pain, so Dr. Langenbuch began with that on September 13, operating antiseptically. The nerve-trunk was found on exposure to be injected and somewhat swollen. The stretching entirely removed the pain in that region, and the motor and sensory paralysis which resulted disappeared in a few days. On September 25, the right sciatic and both crural nerves were stretched at a single sitting. The patient was thus not only freed from the pains in his legs, but *the symptoms of ataxy also ceased.* He was able after a short time to walk without assistance, with perfect control over the movements of his legs, and freedom from all disturbance of their sensibility. The arms, which were never affected to nearly the same extent as the lower extremities, and which had undergone no treatment, were still ataxic and painful at the time when Dr. Langenbuch wrote. The further progress of this case will be of great interest. It seems to be one in which the disease involves the peripheral nerves alone. Both in the case here given and in Dr. Schüssler's patient it may be said that it is only since the introduction of the antiseptic method that the operations described could have been attempted without great risk of dangerous after-affects.—*Med. Times and Gaz.*, Jan. 10, 1880.

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Antiseptic Treatment of Head Injuries.

Since 1860, Prof. J. A. Estlander (*Nordiskt Medicinskt Arkiv*, vol. xi. No. 3) has treated 341 cases of injuries to the head, not including those of the face. Previous to 1870 the old methods were followed; since that time Lister's antiseptic treatment has been in use. To render the results of these two epochs more evident, he has divided his cases into three groups: 1. Simple wounds of the integument. 2. Similar wounds with denudation of the cranium. 3. Such as were complicated with fracture of the cranium and lesions of the encephalon. He has omitted the cases where other affections caused sudden death and no treatment of the wounds could exert any influence. From this comparison it would appear that previous to 1870 simple wounds afforded less favourable results than those treated by the antiseptic method, but the difference is not very great. The wounds with denudation of the cranium, on the contrary, gave much more favourable results by Lister's method. By the latter the mortality fell to 1.5 per cent., whereas by the old methods it was 24 per cent. The author considers that this complication should no longer be viewed in the serious light which prevailed previous to the adoption of the new method. The difference is still greater in the third category, for, before 1870, he lost three-fourths of the cases which presented lesions of the bones of the cranium and of the brain, while by the antiseptic treatment he has saved five-sixths of them. This is still more remarkable, as the fractures of the base, where the antiseptic treatment cannot be placed in question, have furnished the same results during the two periods. It is true that the diagnosis of this lesion may have been occasionally doubtful, where death did not

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result, but the diagnosis has always been based on the same signs, and the errors it is fair to suppose have been equal. Several cases are related in detail to illustrate this method of treatment.—*Med. Record*, March 27, 1880.

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Disturbances of Vision caused by Injuries to the Skull.

Dr. BERLIN has collected a number of cases which have come under the observation of himself and others, in which amaurosis has followed severe blows on the head. In an interesting paper, read before the Ophthalmological Society at Heidelberg, he has given his views on this subject. These may briefly be summed up as follows: The amaurosis is in by far the greatest number of cases unilateral; it arises suddenly at the time of, or immediately after the injury, and is generally complete and incurable. The injuries giving rise to the amaurosis are almost always severe, such, indeed, as generally give rise to loss of consciousness at the time, and may often be supposed to have caused fracture. The frequency of fracture of the roof of the orbit is very great, as may be seen from the statistics of Hölder. Of 126 cases of fracture of the base of the skull examined by him, 88 involved the base, in 80, or 90 per cent., of which the roof of the skull was fractured. In 54, or 60 per cent., the line of fracture passed through the walls of the foramen opticum, and this independent of the direction of the force producing the fracture. In the 54 fractures of the optic foramen Hölder found extravasation of blood into the sheath of the optic nerve 42 times. No extravasation into the sheath of the nerve was found in any case when the fracture did not involve the foramen. Taking into consideration, then, the severe nature of the injuries causing amaurosis, and the statistics of Hölder, Berlin is of opinion that the amaurosis in such cases is generally the result of injury to the optic nerve from fracture through the foramen.—*Edinburgh Med. Journal*, March, 1880.

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Experiments on Blindness produced by Pressure.

A great many experiments have been adduced lately by Boll, Kühn, Ewald, and others, in support of the theory that retinal excitation is of a photochemical nature. In the last number of *Pflüger's Archives*, p. 614, Professor EXNER describes some phenomena which he considers can only be explained by supposing that there exists in the retina a supply of a sensitive substance acted on by light, which is constantly being replaced from the blood as it is used. The following are the more important of Exner's experiments: 1. If the field of vision be divided into a white and black half, and a point fixed on the line of intersection, whilst at the same time pressure be applied to the eye until the white half becomes almost completely dark, it is found that if a white substance be then presented to the black half of the field it appears of normal intensity, gradually losing its brightness as the fixation is prolonged. 2. If an object be fixed for some time, it will, as is well known, give rise to an after-image, the duration of which depends partly on the brightness of the object and partly on other circumstances which are well known. If, however, the object be fixed whilst the eye is subjected to pressure, the duration of the after-image is greatly diminished, and, if sufficient pressure has been employed, ceases to appear at all. It must be remembered that such experiments are not absolutely free from danger. Care must especially be taken not to release the pressure too suddenly.—*Edinburgh Med. Journal*, Feb. 1880.

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Observations concerning the Value of the Audiphone.

Dr. H. KNAPP, of New York (*Archives of Otology*, March, 1880), has been recently making comparative tests of the value of the audiphone and of the dipper-shaped ear trumpet as aids to hearing. The results of his clinical tests are that the audiphone (Rhodes's) produced no increase of the acuteness of hearing in 20 per cent. of the cases, a slight increase (from 1.2 to 1.5 times) in 20 per cent., a moderate increase (from 2 to 5 times) in 60 per cent., whereas the *dipper-shaped ear trumpet* produced an increase of the acuteness of hearing in all cases, slight in 8 per cent., moderate (from 2 to 5 times) in 35 per cent., and great (from 6 to 20 times) in 58 per cent. The audiphone, therefore, is not a *useless* instrument. It increases, in a moderate degree, the hearing power of the majority of very deaf persons; in every case, however, as far as Dr Knapp's examinations have gone, was its value exceeded, and in most cases greatly exceeded, by the ear trumpet.

In addition to the tabulated cases from which these conclusions were obtained, Dr. Knapp has tested others with the same result, and his conclusions are in accord with those of other qualified observers.

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Treatment of Strictures of the Œsophagus.

In the course of a recent discussion in the Vienna Medical Society (*Allgemeine Wiener Med. Zeitung*, No. 42, 1879) Dr. WEINLECHNER, who opened the discussion, said he would confine his remarks to the cases requiring œsophageal or gastric fistulæ. One indication for such an operation would of course be the presence of a foreign body so situated that it could be neither extracted from above nor driven downward to the stomach. Besides, there were cases in which scarcely a drop of fluid nutriment could be taken, and finally, there might be a diverticulum of the œsophagus.

He had twice performed œsophagotomy for very tight strictures of that tube. In 1868 he operated upon a woman, aged 34, who had complained of difficult deglutition for seven months, had been able to swallow only fluids for three months, and not even these for three days prior to her admission to the hospital. The patient was much emaciated, was feverish, and coughed incessantly. A large mass was felt at the lower extremity of the pharynx, completely closing the orifice of the œsophagus. A small sound could not be forced past it. The operation was performed, and she was fed with concentrated fluid nutriment through a catheter in the fistula made in the neck, but died on the fourteenth day of pneumonia of the right lung. Examination showed beside this a tubercular infiltration of the lungs, and at the upper extremity of the œsophagus a thick epithelial carcinoma, which involved also the posterior half of the larynx. Were he to again encounter such a case, he would (following Czerny) attempt the removal of the neoplastic growth, even should it involve the resection of a portion of the œsophagus.

Dr. Weinlechner's second case was one of impermeable stricture produced by swallowing concentrated lye. The child had swallowed absolutely nothing for five days; the constriction was in the vicinity of the manubrium sterni. Œsophagotomy was here performed, in the hope of more easily introducing the sound, and it appeared at first to be successful, as the bougie passed through the fistula and beyond with apparently no obstruction. But, as milk was injected through it, the child became instantaneously livid, gasped for breath, and died in twenty hours. *Post-mortem* examination revealed right-sided purulent pneumonia, and proved that the milk had been forced into the loose connective tissue of the mediastinum.

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After such experience, the speaker felt more inclined to resort to gastrostomy, particularly as it appears to be more properly indicated in cases of cicatricial or even malignant stricture not situated in the neck, and in case of foreign bodies of unusual size or shape. He referred to the statistics of this operation in carcinoma of the stomach, and stated that Schönlorn's patient had lived for three months after the operation.

Dr. Weinlechner had performed gastrostomy twice. The first patient was a boy eleven years of age, who died of peritonitis in fifty hours. The next was a boy, aged 17, who had two years before swallowed caustic potash and had recovered. When admitted he had been unable to swallow for six days. Introduction of a bougie was impossible. Death followed the operation in thirty hours. In both cases artificial nourishment by clysters proved of no service whatever. Although he had himself been so unfortunate, Verneuil's statistics were extraordinarily favourable.

Professor BILLROTH stated as his opinion that, in the majority of cases of stricture the result of carcinomata, the introduction of bougies only irritated the growths, accelerated ulceration, and caused more rapid death. When unable to pass the stricture with an elastic bougie, he obtained another (elastic and hollow) and filled it with quicksilver, the weight of which sometimes caused it to find its way through. He had sometimes employed bougies of tin, but their use was extremely hazardous. Such patients died either from starvation, marasmus, or perforation of the œsophagus or stomach. He had twice performed œsophagotomy in cancerous strictures, and then from the opening in the neck had pushed past the neoplasm; but both the patients died very soon, and he had given up this plan. Computing that the infiltration of the lymphatic glands occurs quite late in œsophageal cancer, he began to think seriously of the radical removal of these neoplasms. He made his first experiments upon large dogs, cutting out a portion of the œsophagus, and feeding them for a considerable period through tubes. The animals were very tractable, soon learning to come of their own free will to be fed in this manner. On examining these after killing, he found that the borders of the œsophageal mucous membrane so closely approximated, that although an inch and a quarter had been cut out, only a slight annular cicatrix remained. Such experiments were very encouraging. Professor Czerny had done the first operation of this character in the case of a woman. He removed the growth, together with a portion of the œsophagus, but did not permit the fistula to heal because he feared a return. The woman lived at least a year, but her subsequent history was unknown. Partial resection of the œsophagus was also possible, and he considered it advisable to make such attempts, to then close the fistulæ, and introduce food by the mouth. This has proven successful in dogs. He had performed œsophagotomy for the extraction of foreign bodies three times in children and once in an adult. The result was uniformly successful.

Although gastrostomy had been highly extolled during the past few years, especially in cancer of the cardiac orifice, Dr. Billroth could not recommend it, as the procedure had thus far given the patients only a very brief respite. He believed the same statement would apply with equal force to the formation of artificial anus in cancer of the rectum. He did not think much had been gained in the single case in which he had so operated. The patient's nutrition was improved, he lived an entire year, but his pain was not at all alleviated. Finally, Dr. Billroth narrated two unfortunate cases in which, on introducing the sound through the œsophagus, a perforation of the stomach had resulted, causing diffuse peritonitis and death within twenty or thirty hours. He relied very little in any of these cases upon artificial nourishment by enemata.

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Professor WEINLECHNER referred to several cases in which death came on with the symptoms of perforation of the œsophagus, in which *post-mortem* examination failed to discover any wound. In all these, however, pleuritis was present. Professor Billroth stated that in distension for the passage of fluids the cicatrix might be torn, and thus a periœsophagitis, mediastinitis, and pleuritis might rapidly follow.

Dr. TELEKY mentioned two cases of œsophageal stricture, the introduction of sounds through which proved unsuccessful. In one he perforated after he had repeatedly passed it with great ease. Section proved that death of the tissues had taken place about the stricture, thus rendering perforation almost unavoidable. In the second case, fatal hæmoptysis followed, but no perforation was made. The discussion concluded with the report by Billroth of one, and by Weinlechner of several cases of œsophageal stricture caused by syphilitic ulceration.—*London Med. Record*, March 15, 1880.

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Diagnosis of Carcinoma of the Mammary Gland.

In an instructive clinical lecture on the life and diagnosis of mammary carcinoma, based upon a study of one hundred cases, Dr. SAMUEL W. GROSS, Surgeon to the Philadelphia Hospital, makes the following remarks (*Boston Med. and Surg. Journal*, March 25, 1880) on diagnosis and treatment:—

The points in favour of carcinoma are, non-development before the age of twenty, greatest frequency after the fortieth year, irregular shape, almost uniformly densely hard and knobby feel, immobility in the gland, attachments to the skin and deeper structures, solitary origin, comparatively small volume and slow growth, retraction of the nipple, infiltration of the lymphatic glands, invasion of the skin by small nodules, non-enlargement of the subcutaneous veins, limited ulceration, without any tendency to fungous protrusion, and the thickened, indurated, and everted edges of the ulcer.

The diagnosis of the non-carcinomatous tumours is based, on the other hand, upon their occurrence in every sixth case before the age of twenty, their greatest frequency before the fortieth year, their multiplicity in one breast, their peripheral situation, their rounded or ovoid and bossed outline, the firm consistence of the smaller and the unequal feel of the larger, their mobility in or on the gland and the adjacent tissues, their comparatively rapid growth and bulky size, the natural appearance of the skin, the enlargement of the subcutaneous veins when they are voluminous, their tendency to ulcerate and protrude late in the disease, and the absence of adhesions between the fungus and margin of the ulcer, and their freedom from retraction of the nipple, nodules in the skin, and taint of the associated lymphatic glands.

Among the more prominent signs of carcinoma are those which indicate local infection of the surrounding tissues, and a knowledge of the date of their appearance will prove serviceable in deciding the question of an operation. Nodules may be looked for in the skin in fourteen months, the contaminated lymphatic glands of the axilla may be detected in fifteen months, ulceration may be expected in seventeen months, and deep adhesions take place in twenty-one months. These figures denote the average dates; but I have known infiltration of the skin, pectoral muscle, and glands, and ulceration, to occur as early as four months, and to be postponed, on the other hand, for several years. Glandular involvement, indeed, may show itself as early as the first month, or even before the primary tumour can be felt; and from the fact that the glands are buried in the fat of the axilla, thereby evading early detection, I believe that their invasion antedates that of the skin. Be this as it may, if you are about to operate on a case in

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which there is nodular infiltration of the skin, you should be prepared to open the axilla and search for infected glands, even if they cannot be distinguished from without.

Finally, I desire to state that I am no believer in the constitutional origin of carcinoma, and that I am convinced that we will obtain good results after operation if we can only secure cases in which the disease is limited to the gland itself. Even when the skin over the breast is infiltrated to a slight degree, and the lymphatic glands of the axilla are not too seriously involved, I believe that we may prolong life, if not obtain a radical cure, by extirpation. To do this, however, you must discard the operation as you usually see it performed, and remove the entire gland, with all its coverings, by a circular incision, dissect away the pectoral fascia, and clean out the axilla. In other words, do not aim to secure a covering for the wound, but practise thorough excision.

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On the Treatment of Cancer of the Female Generative Organs by a New Method.

In a communication to the *Lancet* (March 27, 1880), Prof. JOHN CLAY, Obstetric Surgeon to the Queen's Hospital, Birmingham, strongly recommends Chian turpentine in the treatment of cancer of the female generative organs, and also cancer of other organs; and from the results which he has obtained, he says, it may be confidently stated that the remedy exerts a powerful action on cancer of the female generative organs in particular, and it will be of advantage to point out some of the conclusions at which he has arrived respecting the efficacy of the drug and the manner in which it should be employed. The oil of turpentine, if it produces any effect on cancer, is inadmissible on account of the speedy production of its specific effects even when administered in small doses. The same remark applies with less force to the Venice and Strasbourg turpentines; in his hands they have not produced the same beneficial effects on cancerous growths as the Chian turpentine has done. The maximum dose of the last-named drug which can be safely and continuously given is twenty-five grains daily. It is advisable to discontinue the remedy for a few days after ten or twelve weeks' constant administration, and then to resume it as before. The combination with sulphur was given at first, and has been continued. It is doubtful whether much benefit is derived from the combination, but the effects have been so uniformly good with it, that it was thought advisable to continue its use. There is every reason to believe, from the trials made with other substances in combination with the turpentine, such as carbonate of lime, iodide of calcium, ammoniated copper, quinine, bebeerine, hydrastin, etc., that the turpentine is best administered simply, as the most marked and rapid effects have always been manifested when it has been given alone.

The turpentine appears to act upon the periphery of the growth with great vigor, causing the speedy disappearance of what is usually termed the cancerous infiltration, and thereby arresting the further development of the tumour. It produces equally efficient results on the whole mass, seemingly destroying its vitality, but more slowly. It appears to dissolve all the cancer cells, leaving the vessels to become subsequently atrophied, and the firmer structures to gradually gain a comparatively normal condition.

It is a most efficient anodyne, causing an entire cessation of pain in a few days, and far more effectually than any sedative that Dr. Clay has ever given. In the cases he describes no sedative was employed in any instance, although in some cases where great pain had existed previously to commencing the treatment, large doses had been given. Whether this arrest of pain arises from the death of the

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tumour, or is due to there being no longer irritation of the sentient nerves (in consequence of tension being withdrawn by the removal of the cells), the fact is the same.

If, after the use of the remedy for some weeks, one of these cases were examined by a stranger for the first time, he would probably conclude that it was one of commencing malignant disease, by reason of the irregularities of its surface. The effect of the remedy being first to remove the cellular structures, any loss of tissue produced by the invasion of the disease cannot be restored, and hence the irregular touch and appearance even after cicatrization. The arrest of the hemorrhagic discharge and the remarkable freedom from glandular affections, after a lengthened use of the turpentine, are specially important factors in materially aiding the removal of the cachexia and of improving the general condition of the patient.

Without being in a position to affirm that the Chian turpentine is a positive cure for advanced cancer of the female generative organs, yet however the facts here adduced may be interpreted in this respect, two circumstances are indisputable—one, that all the patients after several months' treatment are living, and that the disease has not advanced as is usually the case, but has retrogressed—in fact, has all but disappeared; and it may at least be safely asserted that when the remedy is steadily used for some time it arrests the progress of the disease, and relieves the pain incidental to the morbid growth in a manner which cannot be said of any other remedy. It is probable that on an extended experience of its use and by variations of the mode of administration, it may prove an effectual cure for this intractable disorder. Patience and perseverance on the part of patient and medical adviser are absolutely required. We know that in some diseases, as bronchocele and syphilis, a long continuance of well-known remedies is often necessary to effect a cure of the particular disorder, and that the administration of the remedies has to be varied from time to time, according to the therapeutic effects produced by the drugs. In cancer, as far as experience has at present indicated, the same alternating method may perhaps have to be employed. Whatever may be the ultimate results, there can be no doubt that Chian turpentine in these disorders is a most valuable medicine. Judging by Dr. Clay's experience, it is no figurative expression to say that it acts as a direct poison upon the growth, probably causing its ultimate death. In advanced cancer the process of reparation is slow, but if the surrounding structures are not too much involved in the process of destruction, it will seem that a cure may be reasonably expected. It is not that the remedy has failed against the cancer, but that the vital organs are so much destroyed that their complete reconstruction and adjustment of functions are not possible, and life fails in consequence of their mutilated condition. Even under these circumstances, if the cancer does not recur, the efficacy of the medicine is obvious. In the early stages of cancer it may be affirmed that an undoubted cure may take place speedily, and as the contiguous structures are not extensively involved, but little deformity ensues; and experience justifies the expectation that under such circumstances a recurrence of the disease will not follow.

The following is the formula which Mr. Clay uses: Solution of Chian turpentine, half an ounce; solution of tragacanth, four ounces; syrup, one ounce; flowers of sulphur, forty grains; water to sixteen ounces: one ounce three times daily.

The *Lancet* (April 3, 1880) calls attention to the importance of making sure that the drug employed is certainly what it professes to be. As a matter of fact, it is by no means easy to obtain Chian, or Cyprus turpentine. So long ago as the date of the publication of the earlier editions of Pereira's Materia Medica,

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there was so much difficulty in procuring the substance that the profession was especially warned against the almost inevitable substitution of Venice or Canada turpentine, or some other terebinth of totally different properties, in dispensing of prescriptions, for Chian turpentine. Probably there is scarcely any of the true resin in the market at present, and only druggists who happen to possess a small forgotten store *can* supply it. We think it desirable to make this intimation for the sake of medical practitioners who may be anxious to try the remedy, but who are almost sure to be disappointed, unless they take more than ordinary measures to ensure accuracy. As Professor Clay stated in his paper, no other terebinth except the Chian has been known, or can be expected, to produce the effects which have followed its use in his cases. The public should also be cautioned against resorting to the remedy, without skilled medical advice and supervision; and very earnestly must they be made to understand that probably not a tithe of the medicine likely to be sold under the name of "Chian turpentine" during the next few months will be genuine. The caution given to the profession years ago by the then highest authority on the subject of pharmacy, at a time when there was no special demand for the drug, will be doubly necessary now, when nothing but the accident of having a small reserve on hand can enable any druggist to dispense it. It only remains to add that some of the received descriptions of *Terebinthina Chia* seu *Cypria* are so faulty that identification of the genuine drug will be attended with more than ordinary difficulty. It is the gum of a tree growing thirty or thirty-five feet in height, and is obtained by cutting crosswise with a hatchet the trunks of the largest trees. The yield is very small, "not exceeding eight or ten ounces" for each tree; so that it must be obvious that the bulk of the material sold under this designation at two or three shillings a pound is not genuine. Its consistency is that of honey, but it is more glutinous. The colour is greenish-yellow. It has an agreeable turpentine-like odour, combined with the odour of fennel or citron and jasmine. Its taste is very mild. By keeping it resinifies, and, we may add, loses some of its virtue. The coniferous turpentines, which do not possess its special qualities, are usually sold for it.

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On the Treatment of Gonorrhœa.

It might be thought that all has been said that can be said on the treatment of gonorrhœa, but the experience of so distinguished a specialist as Prof. ZEISSL, of Vienna, detailed in a communication to the *Wiener Med. Wochenschrift* (1879, Nos. 38, 39, and 40), cannot fail to prove of interest to our readers.

The object he has in view, he says, is to indicate some of the leading points in the treatment of catarrhal disease of the male urethra; and he enters into details upon the subject, because both his hospital and private practice have too often given him the sad opportunity of observing that both old and young practitioners are not always careful enough in avoiding manipulations that are highly injurious to the urethra, as, for example, the employment of concentrated solutions for injections.

1. *The Direct Treatment of Acute Gonorrhœa.*—As every one knows, we can treat gonorrhœa either by direct applications to the urethra, or indirectly through the digestive organs. In the direct treatment, before all things, we must insist upon the patient wearing a suspensory, in order to prevent traction on the testes. He should take no beer or champagne, or any drink which contains much carbonic acid in the nascent state, as this gives rise to dysuria. Meat in the evening and late meals should be avoided, as favouring the occurrence of nocturnal pollutions, aggravating the patient's condition. The same may be said of the sitz-bath taken late in the evening. During the acute stage, if there still exist

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severe pain, especially after passing urine, and stabbing pains at the posterior part of the urethra—one of the earliest symptoms of gonorrhœa—we may confidently begin the treatment by the injection of a very weak solution of an astringent metallic salt. After the first effective injections the pains are considerably diminished, the urine is passed more easily, and the slight fever which is often present disappears. The relief of the pain may also be hastened by tepid sitz-baths. It is an interesting fact that the patient who at the beginning of the gonorrhœa can only pass urine amidst the severest pain is able to empty the bladder while in the bath with the greatest ease and comfort. With regard to the injections, they should at first be as weak as possible, so that they may never act as caustics, but only as astringents. The substance from which Prof. Zeissl has derived the best results is the permanganate of potash, of which he prescribes two centigrammes in 200 grammes of distilled water, thrown in four times daily by means of a caoutchouc syringe, care being taken to prevent the entrance of air, the presence of even a small quantity of which in the urethra suffices to induce severe dysuria. If this occur, or pains arise in the testes, the injections must be suspended, and the symptoms suitably treated. As already stated, it often happens that after a few injections the pain diminishes, and all traces of the gonorrhœa frequently disappear after only a week's employment of the permanganate. If, however, after using this very weak solution for a week no essential improvement has taken place, it may be strengthened by a centigramme; but Prof. Zeissl never goes beyond fifteen centigrammes in the 200 grammes of water. A rule to be observed is not to continue the same injection for too long a time, as the urethra becomes accustomed to the presence of the medical agent, the further employment of which is then useless. Therefore, if the permanganate does not cause the disappearance or diminution of the purulent discharge after it has been employed ten or twelve days, a weak solution (thirty centigrammes to 200 grammes) of sulphate of zinc should be substituted, gradually increasing the strength to five decigrammes. If this does not succeed, Prof. Zeissl then resorts to the employment of insoluble bodies, such as bismuth, kaolin, or the acetate of lead, prescribing five parts to 200 either of bismuth or kaolin, or two parts of sulphate of zinc and two parts of acetate of lead to 200 of distilled water. Injections containing these suspended bodies must be well shaken, so as to cause a uniform distribution of the precipitate in the urethra. This powder may remain in the urethra for a long period—and at all events until the next discharge of the urine; and when it is forced into the glandular orifices of the prostate it often remains there for a fortnight or longer. This circumstance explains the beneficial action of these suspended substances, as they remain in close and prolonged contact with the membranous and prostatic portions of the urethra and with the prostate itself—the parts in which the catarrh exhibits the greatest obstinacy. After the injection of these substances, a circumstance is often observed which may cause the patient unnecessary alarm. When the injections have been employed for fourteen days or so, he may perceive, when discharging hard fecal masses from the rectum, that little granular bodies, adhering to each other by means of filaments, issue from the urethra. They can be broken up by the fingers, and are nothing else than portions of the bismuth or kaolin which had remained in the prostatic canals cemented together by the secretions of the prostate.

If, in spite of the means employed, some remains of the gonorrhœa still exist; if the urethra is found stuck together in the morning; or if, on syringing it out with clean water, this is found, when examined in a glass tube, to contain mucous filaments or epithelium—it is then proper, besides using the injections, to introduce a gum-elastic bougie. For this purpose, Prof. Zeissl employs a

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conical elastic bougie of moderate size (from 10 to 14 of Charrière's scale), and having well oiled it and passed its end through a powder composed of starch, kaolin, or bismuth, passes it into the urethra at least as far as the sphincter vesicæ, and allows it to remain there for five or ten minutes. From this procedure he has obtained highly favourable results in gonorrhœa which may have lasted for years. Nor has he ever met with any ill effect arising from it, or any consecutive disease (as the formation of stone) resulting, numerous autopsies having shown that the powder is not introduced into the bladder, but is all smeared over the urethra. When by the use of all these means a cure is still not effected, we may then resort to solutions of alum, tannin, sulphate of cadmium, or acetate of zinc, and to the introduction of lithotomy sounds until the largest which the urethra admits of has been attained. This last procedure will be again noted when treating on affections of the prostate consequent on gonorrhœa. The following are the formulæ which Prof. Zeissl recommends: ℞. Sulph. cadmii 30 centigrammes, aquæ 200 grammes. ℞. Alum. 5 grammes, aquæ 250 gr. ℞. Sulph. cupri 5 centigr., aquæ 250 gr. ℞. Acet. plumbi basici soluti 5 grammes, aquæ 250 gr. ℞. Acet. zinci 1 gramme, aquæ 250 gr. ℞. Acet. zinci 1 gramme, aquæ 250. ℞. Acet. zinci, tannini puri, ää 50 centigr., aquæ 200 gr. ℞. Acet. zinci 70 centigr., tinct. catechu 1 gramme, tinct. opii gtt. x, aquæ 200 gr. ℞. Liq. ferri sesqui. soluti gtt. xx, aquæ 200 gr. Or urethral suppositories may be formed of equal parts of kaolin and glycerine, and used four times daily. When the subjects of gonorrhœa complain of very severe pains along the perineum, and especially on sitting down, either extract of belladonna suppositories (℞. Ext. bellad. 7 centigr., butyri de cacao q. s., f. x. parva suppositoria) may be introduced into the rectum, or seven centigrammes of acetate of morphia may be added to any of the injections. Or again, urethral suppositories may be formed of seven centigrammes of muriate of morphia divided into ten. Prof. Zeissl attaches great importance to the not having too early recourse to the more powerful action of the above substances especially the sulphate of copper. His experience has taught him that if at the beginning concentrated and caustic injections are employed, they may give rise to very violent reaction; and in one case he met with, the whole of the mucous membrane of the urethra was discharged like the finger of a glove, accompanied by great hemorrhage, in consequence of using a concentrated sulphate of copper injection. So, also, violent pain and a great increase of the discharge were induced by an injection containing five grammes of the hypermanganate of potash to 200 of water. These examples, to which many others might be added, suffice to show that concentrated, and therefore caustic, liquids act very mischievously on the urethra. Further, it is a fact that, by the use of these injections, the disposition which gonorrhœa already possesses to induce stricture of the urethra is increased; and, indeed, caustic injections will often suffice alone to give rise to this affection.

2. *Direct Treatment of Chronic Gonorrhœa.*—By the term chronic gonorrhœa, Prof. Zeissl understands a disease of the urethra which is limited to a small portion of the canal, most frequently quite its posterior part. There is only a spare seromucous secretion, and rarely slight pain, especially seated at the diseased portion of the urethral mucous membrane. Patients suffering in this manner must be asked whether the stream of the urine has latterly considerably diminished in size, for a similar chronic catarrh of the urethra will very frequently be produced by stricture. A sound (from No. 15 to 18 of Charrière's series) should be passed in order to ascertain whether the calibre of the urethra is narrowed. For those accustomed to the examination of the urethra, an elastic bougie will serve as well; but for those who have not had large practice in catheterism the sound is to be preferred, because with a solid instrument injury to the urethra is less

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likely to be produced than with an elastic one; while entanglement of this last in a fold of the urethra may lead to a diagnosis of stricture being made where none such exists. Very often the patient is able, on the introduction of an instrument, to indicate exactly the diseased spot, by the pain occasioned there. We must not, however, trust too much to this indication, for the patient is often, on the first introduction of an instrument, in too anxious a state of mind to be able to afford any exact information. Patients constantly complain of a painful sensation when the instrument passes over the caput gallinaginis. During the withdrawal of the instrument, even those who have had but little practice with it can easily detect irregularities in the urethra when they are produced by granular growths, small polypi, etc., and sometimes are enabled to discover the diseased portion. Several methods have been devised for the direct application of medicinal substances to the small isolated diseased part of the urethra. Bougies or catheters on which such substances have been smeared, and syringes with catheter-like pipes, allowing the astringent fluid to be applied drop by drop at the posterior part of the urethra, are among these. The efforts which have been made to render the membrane of the urethra as visible as that of the vagina, and which have given rise to the invention of the endoscope, have not, in Prof Zeissl's opinion, been very successful. By its aid some interesting pathologico-anatomical facts have been established; but no material improvement in the treatment of prolonged gonorrhœa has attended the use of this instrument. Out of hundreds of cases in which he has employed the endoscope, Prof. Zeissl has only succeeded in effecting a cure in two instances by pencilling the diseased portion of the mucous membrane. He has therefore well-nigh given up this mode of treatment. He recommends that endoscopy should be practised upon the cadaver, and especially with the straight endoscope, which requires great dexterity for its introduction.

The same method of treatment must be continued in the chronic as in the acute form of gonorrhœa, and in the great majority of cases it will prove successful. Especial advantage will be gained by the well-timed introduction of the elastic bougie and sound, which will be referred to again.—*Med. Times and Gazette*, Feb. 14, 1880.

(*To be concluded.*)

Acute Osteomyelitis and its Causes.

Dr. KOCHER (*Centralblatt für Chirurgie*, No 39, 1879) says that acute osteomyelitis is produced, like other inflammations, by infection, but still it is not a *specific* infectious disease. His observations were made on fifty-two cases, of which, however, only thirty were positively demonstrated to be cases of acute osteomyelitis. Of these thirty cases twenty-six were males and four females; all were between 8 and 25 years of age. In a few of the cases the patients had caught cold or had received an injury; in seven cases the osteomyelitis was secondary, having developed in one in the course of a typhus, and in the others during the existence of inflammatory processes in different parts of the body. Kocher believes that osteomyelitis is excited by the action of agents which may exist for some time in the body without giving rise to the general symptoms of infection of the bones. The bones which grow the most rapidly are the most frequently affected; hence certain spots, such as the lower end of the femur and the upper end of the tibia, present a special *anatomical predisposition*. In the experiments on animals several methods were employed. 1. Agents which exerted a physical or a chemical action (liquor ammoniæ, tincture of cantharides, croton oil) were tried with antiseptic precautions. 2. Decomposing fluids and

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pathological secretions were injected. 3. The first method was combined with the internal administration of putrid matters. The first method as a rule failed, while the third succeeded. True metastases in other organs were not observed. Hence it follows, that under some circumstances irritant matters may pass from the intestinal canal into the bony marrow, and give rise to osteomyelitis. In acute osteomyelitis disturbances of function of the adjacent joints often precede the other symptoms; purulent effusions into the joints may also occur early. If the abscess be opened, the epiphyses will often be found separated. The pus frequently contains free fat. The lymph-glands are only slightly implicated. The fever is usually high from the beginning, without morning remissions, and sometimes remains high for some days after the abscess has been opened. Recovery, when it occurs, is greatly protracted by the necrosis, which almost always occurs. Death occurs either from multiple acute pyæmia, with metastases in the lungs, kidneys, and heart, or from the development of secondary inflammations in some internal organs (pyelo-nephritis, pleurisy, etc.), after the original bone disease has begun to improve. There is also danger of septicæmia after the abscesses have opened. Kocher divides the affection into three stages from a pathologico-anatomical standpoint. 1. The stage of purulent infiltration of the medulla, with the formation of isolated foci of disease; from these the pus extends to the periosteum and synovial membrane. 2. The stage of formation of abscesses and sequestra in the cortical and spongy tissues, and in the epiphyses. 3. The stage of repair. The osteomyelitis becomes chronic in the form of chronic osteitis, or of abscess of bone; the former terminates in osteosclerosis or in osteoporosis. In the way of treatment Kocher recommends the salicylate of soda in doses of a drachm and a half to 6 drachms daily, or if that is not borne, alcohol in larger quantities. Locally, he advises the evacuation of the pus by puncture, and the injection of a 5 per cent. solution of carbolic acid, one or more hypodermic syringefuls daily. The fluid should be injected not alone into the abscess, but also by means of hollow drills into the medulla. If the abscess have already broken, free incisions should be made down to the periosteum, and strict antiseptic dressing employed. If the joint be involved it can sometimes be saved by washing it out with a 5 per cent. solution of carbolic acid, but amputation will often be necessary.—*London Med. Record*, March 15, 1880.

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Suppuration of Joints after Acute Rheumatism.

This sequela of rheumatic fever is admitted by all authorities to be very rare, and some have even doubted its occurrence. Nevertheless, Dr. W. KORTE, Assistant Surgeon to the Berlin Bethany Hospital (*Berl. Klin. Wochenscrift*, No. 4, 1880) reports six cases which came into the surgical clinic between August, 1877, and June, 1879. Four of them were treated for the rheumatism in the medical wards and transferred, and the two others came directly under surgical treatment from outside; but in every instance there was no possible doubt of the true nature of the primary disease. None of the cases were pyæmic. All were women of ages ranging from twenty-one to forty-eight years. Two were previously strong, the rest of delicate constitution. Two had endocarditis. All had been treated with salicylic acid, but the usual effect was not produced by it, and the disease seemed to linger obstinately in one of the affected joints after the others had recovered. The suppuration was indicated by severe pain on movement and handling, by distension of the joint capsule, redness and swelling of the soft parts, and fever, especially at night. In three patients the knee-joint was affected, and in three the ankle-joint. In two at least of the latter the inflammation was limited to the synovial membrane, and the cartilages were intact; these

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were treated antiseptically with incisions on both sides of the joint, washing out with 3 to 5 per cent. carbolic solution and drainage. Recovery took place with movable joints. The third ankle-joint required partial excision, and its movement was consequently less perfect than in the other two. All three cases of suppuration in the knee-joint had advanced to injury of the ligaments, cartilages, and ends of the bones, and resection was necessary in all. Two of these patients recovered extremely well; the third died of gangrenous bedsore. Dr. Körte considers that the treatment adopted for the ankle-joint is the best possible, when the deeper parts of the joint are still intact, and the suppuration remains what he terms "catarrhal." He suggests that the frequency of suppurative joint-affections after rheumatic fever in the cases before us may have depended on the character of the epidemic during which these cases occurred, just as some epidemics of typhoid fever, scarlet fever, etc., are specially followed by joint-inflammations. Curiously enough, he does not refer to the salicylic treatment as having any possible causal connection with their occurrence.—*Med. Times and Gaz.*, March 20, 1880.

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Result of Excision of the Lower Ends of the Radius and Ulna for Myeloid Tumour.

At a late meeting of the Clinical Society of London (*Lancet*, Feb. 21, 1880) Mr. HENRY MORRIS exhibited a woman from whom he had removed a myeloid tumour of the radius about four years ago. The case is recorded in vol. x. of the Transactions. The lower part of the radius and four inches of the ulna were removed. Dr. Gross, of Philadelphia, in a recent paper,[1] had collected nine cases, which he regarded as unsuccessful, including this one, the details of which, however, he had only gathered from a journal report; for the patient's hand was sufficiently useful to enable her to follow her household duties. She could sew, wash linen, using her index and middle fingers, and the case showed that excision should not be condemned too hastily as opposed to amputation. Mr. Morris wished now that he had removed as much of the ulna as of the radius, for from retraction of the parts the end of the former projects over the carpus.

Midwifery and Gynæcology.

The Value of Disinfecting Intrauterine Injections.

Dr. HOFMEIR contributes a short paper on this subject to the *Centralblatt für Gynäkologie* (No. 5, 1880). He objects to needless employment of intrauterine injections as likely to be dangerous, and supports his view by reference to 260 normal cases in which intrauterine disinfecting injections were used, and of whom 42, or 16 per cent., were the subjects of inflammatory processes in connection with the genital organs; whilst of 249 cases treated without injections only 19, or 8 per cent., were so affected. Of the 42 cases 8 were seriously affected, and of the 19 only 1. The author, however, holds that if, during the labour, fermentation and putrescent processes have been started, as evidenced by the formation of gases in the uterus and fever in the patient, disinfectant injections are not only not objectionable, but are urgently necessary, and give excellent results. The strength, however, must be considerable, so that the injection shall be slightly caustic. Dr. Hofmeir recommends a solution of carbolic acid, 1 in 20 of water, to be employed in such cases, and maintains that he has seen excellent results

[1] Am. Journ. Med. Sci., July, 1879.

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from this. The author recommends the same treatment to be adopted after stinking abortions and such like conditions.—*Edinburgh Med. Journal*, April, 1880.

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The Fungosities of the Umbilicus in Newly-born Children.

M. Ch. Féré has contributed to the Société Anatomique of Paris (*Progrès Méd.*, Dec. 20, 1879) a note on this subject. These growths are far from rare, but yet, from certain points of view, have been little studied. They generally show themselves during the four or five days following the fall of the cord, and rapidly develop. They present themselves under several forms. They are often fine, almost perfectly cylindrical projections, only two or three millimetres in thickness, but possibly attaining the length of a centimetre or more; they then project beyond the level of the abdominal wall, but they are only well seen on unfolding the umbilical depression. This cylindrical appearance has led to the view that they may be formed by a vessel, either a vein or an artery, which has not been divided at the same level as the rest of the cord. Yet more often these tumours look like pimples, sometimes sessile, sometimes pedunculated, more or less regularly rounded, rosy, of a fungous appearance, rarely bleeding; if they are small they are only noticed if one is warned of their presence by prolonged suppuration, and unfolds the umbilicus; sometimes they reach a considerable size, and it has even been possible to compare them to small cherries (Simpson); most commonly they are about the size of a small pea. They seem not to have any tendency to spontaneous cure. Astley Cooper has observed one which he attributed to the remains of the cord in a child seven years old; although it bled, and was sometimes painful after irritation, it might, he says, be at first mistaken for an umbilical hernia. The cylindrical vegetations can be destroyed by cutting them off, or by ligature; the operation does not provoke hemorrhage, and the tumour is not reproduced. The sessile tumours are easily repressed by cauterizations with nitrate of silver; it is not prudent to destroy them by more energetic measures without the most minute precautions; in one case, after destruction by caustic, fluid ran out, there existed under the fungous cicatrix an entero-umbilical diverticulum which had been opened. The histological structure of these tumours is little known. Kustner has distinguished three varieties: 1, the granuloma of Virchow, which is the most common form; 2, the vascular fungus (myxosarcoma telangiectasique de Virchow), more rare; and, 3, adenoma. This author has also found in some of these tumours smooth muscular fibre, and all the elements of intestinal mucous membrane. M. Féré has examined two specimens. One was of the cylindrical kind, and was cut off with scissors eleven days after birth. Its tissue had all the histological characters of a round-celled sarcoma. It was covered by a layer of epidermis. The other was of a cylindro-conical form, and of the size of a grain of wheat. It was cut off by a ligature put round its base. Histologically it was composed of a sarcomatous tissue more advanced than the preceding one, in parts the tissue was even fibrous; the vessels were smaller than in the first case, a fine layer of epidermis covered its surface. It was histologically a sarcoma with a tendency to the formation of fibrous tissue. It may, therefore, be considered as an example of a neoplastic process which, while presenting all the histological characters of sarcomatous tissue, yet has none of the clinical characters ordinarily associated with such growths.—*Obstetrical Journal of Great Britain*, March 15, 1880.

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Prolapsus Uteri: Elytrorrhaphy after the Method of Lefort.

At a late meeting of the Société de Chirurgie de Paris, M. Parras stated (*Le Progrès Méd.*, Dec. 13, 1879), that this operation had now been performed

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three times, by Lefort, Rancarol, and Panas respectively. The case he brought before the Society was that of a woman, aged thirty-six, who had suffered from complete prolapsus for seven years, since the birth of her last child; her perineum had also been lacerated. She died from another disease more than two years after the operation, and during this time the cure was complete. The operation consists in uniting in the mesial line the anterior and posterior vaginal walls, so as to make two lateral vaginæ. The surfaces freshened were about six centimetres in length, by two in breadth, and the raw surfaces were kept in contact by twelve sutures, one above, five on each side, and one below. M. Panas thinks this operation better and easier than that of Sims. It is easy to denude the surfaces and to pass the sutures, because the parts, being prolapsed, are at, or outside, the vulva. The anterior sutures are the last inserted. It is true that at the end of the long and narrow lateral vaginæ formed by the operation there is great difficulty in withdrawing the sutures. To meet this objection, M. Panas proposes to use catgut stitches, which, as they will be absorbed, the surgeon need not trouble himself to remove. Although the parts vivified are very close to the peritoneum, yet no evil result has followed in either of the three cases. The only inconvenience is the obliteration of the vagina, an inconvenience of which it is the bounden duty of the surgeon to previously inform the patient.—*Obstetrical Journal of Great Britain*, Feb. 1880.

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Fibroid Tumours of the Uterus, and their Treatment by Continuous Currents.

This paper by CHERON (*Gaz. des Hôpitaux*, 1879, p. 226) is the result of twelve years' observation of forty-two cases of uterine fibroids. The galvanic current applied continuously, one pole to the uterus, the other externally, gave no results even after one hundred or more applications. The induced current was found difficult to bear when applied with sufficient strength. The author then resorted to the interrupted galvanic current, placing one pole (positive) on the cervix, the other on the abdomen, and interrupting the current every second. [No clear directions as to the length and strength of the applications are given.] The results were most favourable, and were probably due to the stimulating and catalytic influences of the current. Several cases are described, in which the hemorrhage disappeared, the tumour diminished in size, and the general health improved. The author does not, however, allege that he obliterated the tumour entirely.—*London Med. Record*, March 15, 1880.

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The Complete Extirpation of the Cancerous Uterus by Freund's Method.

SOLOVIEFF, of Moscow, reports (*Archives de Tocologie*, Jan. 1880) the case of a patient aged forty-three, who had had four children. She had been suffering from pain, with hemorrhage and fetid discharge for eight months. To vaginal examination the cervix uteri seemed healthy, except that it was somewhat thickened; but after the os externum had been enlarged by incision, it was found that the interior of the neck and body of the uterus was covered with dense projecting excrescences. The operation was performed with the strictest antiseptic precautions. Its details are fully described, but cannot well be abbreviated. The patient died twenty-six hours afterwards. Death appeared to have taken place from shock, combined with septicæmia. The author considers that it is very difficult to draw a parallel between the extirpation of the cancerous uterus and ovariotomy; first, because when the cancerous patients come under notice the disease has generally already made considerable progress, and the general health has seriously suffered. Added to this, there is the section of the peritoneum

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in two places, and the greater length of the incision required. But the great disadvantage of Freund's operation consists in the fact that the intestines have to be drawn out of the abdominal cavity, and retained there by the pressure of a cloth; whereas in ovariotomy, on the contrary, the intestines generally remain within the abdomen. This is the explanation of the frequency of death from shock after Freund's operation. The following are the chief points in which the author thinks that the operation needs improvement: 1. It is necessary to find a mode of operating without drawing the intestines out of the abdomen. 2. The operation needs to be made as short as possible, that the intestines may not be chilled, and that the patient may not be longer under chloroform than can be helped. The author goes on to mention nine other points, all of which refer to operative details. He gives a table of all the cases which he knows of, in which the operation has been performed up to the present time. There are 47 cases, of which 12 recovered and 35 died. He thinks that these figures are enough to convince any sceptic of the legitimacy of the operation, and that the operation will in the future take a foremost place in surgery.—*Obstetrical Journal of Great Britain*, Feb. 1880.

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Successful Removal of the Uterus and one Ovary for the Relief of a Subperitoneal Uterine Tumour.

Dr. W. THORNLEY STOKER recently brought before the Surgical Society of Ireland (*Med. Press and Circular*, Jan. 28, 1880) a case of this. The tumour had been first noticed two years and a half before the operation. It was freely movable, lay chiefly to the left side of the abdomen, and was so elastic as to give a doubtful sensation of fluctuation both to the finger and when percussed. Even when the division of the abdominal wall had been completed and the surface of the growth laid bare, it was impossible, until an attempt had been made to push a trocar into it, to say whether it was solid or fluid. The uterine cavity was of normal size. Every part of the uterus that could be felt by the finger in the rectum was of natural size and character. The vagina was not elongated, and nothing abnormal could be detected by digital examination either per rectum or per vaginam. These features made it very difficult to determine whether the tumour was uterine or ovarian. The tumour increased rapidly while the patient was under observation, ascites made its appearance, and the general health visibly declined. It was, therefore, thought proper to remove the growth. The operation was performed under thymol spray; but the antiseptic precautions were not completely carried out, and the wound did not remain aseptic. The operation was a very long and difficult one. The incision necessary extended from near the ensiform cartilage to the neighbourhood of the pubes. There were extensive adhesions on every side, the omentum giving especial trouble. The pedicle was formed of the cervix uteri; stout plaited silk was passed twice round it and tied tightly; but this was found insufficient to prevent the risk of hemorrhage, and the pedicle was therefore transfixed with a strong pin, and another ligature put round it at the point of transfixion, and its ends twisted round the pin. The right ovary was removed with the tumour; the left did not present itself. A glass drainage-tube, four inches long, was secured in the lower angle of the wound so as to reach into the pelvis. Much blood was lost during the operation, and at its conclusion the patient was at the point of death from exhaustion. The pin with the slough of the pedicle separated on the eleventh day. The patient's recovery was interrupted by many untoward symptoms; excessive vomiting during the first eight days; aphthous ulceration of the mouth and fauces from the third to the eighth days; fetid vaginal dis-

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charge from the sixth day to about the fifteenth; much pain and sleeplessness. After the twentieth convalescence went on rapidly. The tumour weighed 14 pounds, and was a large myoma, occupying the upper and anterior wall of the uterus. Dr. Stoker considers that the case affords very substantial testimony to the value of the drainage-tube, without which he thinks the patient would have died.—*Obstetrical Journal of Great Britain*, March 15, 1880.

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On Axial Rotation of Ovarian Tumours, leading to their Strangulation and Gangrene, successfully treated by Immediate Ovariotomy.

At a late meeting of the Obstetrical Society of London (*Lancet*, March 27, 1880) Mr. LAWSON TAIT read a paper on this subject, and reported three cases successfully treated by immediate ovariotomy. The first case of the kind which the author had met with was that of a woman aged forty-eight, on whom he had operated for a femoral hernia, supposed to have been strangulated for two days. The patient died in five days. The autopsy revealed a small ovarian tumour not recognized during life. It was black and gangrenous from twisting of the pedicle.

Of the three cases now recorded, the first was that of a woman forty-six years old. In March last the author diagnosed a small monocystic tumour, probably parovarian. On June 9th she returned with the tumour much enlarged, and suffering from intense abdominal pain. Immediate ovariotomy being performed, the author found the cyst of a black-pearly colour, universally adherent by recent lymph. The pedicle was twisted three or four times. The patient made an uninterrupted recovery, though no Listerian precautions were used.

The second case was that of a woman aged thirty, who had noticed gradual increase of size for nine months. Sudden and violent pain in the abdomen occurred on Nov. 6th, followed by incessant sickness. Ovariotomy was performed on Nov. 17th, with Listerian precautions. The tumour was dark-purple, friable, and universally adherent by recent adhesions. Bleeding was controlled by the application of solid perchloride of iron. The pedicle was twisted twice. The patient survived, but made anything but an antiseptic recovery.

The third case was that of a woman aged thirty-six, who had not menstruated for seventeen weeks, but had noticed an increase of size too rapid for ordinary pregnancy. Intense abdominal pain, followed by sickness, came on on Nov. 11th. Immediate ovariotomy was performed. The uterus was found occupied by a pregnancy of about the fourth month. The tumour was a parovarian cyst of the right side, and was of a pearly-black lustre, and the pedicle was twisted three times. Listerian precautions were used, and the patient made a better recovery than the second case, but not so good as the first. No symptoms of miscarriage appeared.

In all these three cases the tumour was one of the right side, and the pedicle was twisted from within outwards and to the right side. From this circumstance the author deduced a theory as to the causation of the rotation—namely, that it is due to the alternate filling and emptying of the rectum. The feces descending the rectum would act as a wedge, and the point of application of the force would be the most favourable possible in the case of a right-sided tumour.

Mr. KNOWSLEY THORNTON related several cases in which, on performing ovariotomy, he had found the tumour gangrenous from twisting of the pedicle. He agreed with the author that immediate ovariotomy should be performed when symptoms arise leading to a suspicion of such a condition. In some cases, however, the necrosed tumour, being excluded from septic influence, remained quiescent for a considerable time.

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Mr. SPENCER WELLS thought that it was easy to account for the rotation of the tumour by the patients' changes of position. Moderate degrees of twisting were often found without any gangrene being produced. He had seen two patients who died suddenly from very profuse bleeding within the cyst, without its rupture, the pedicles being found twisted. Last year he had removed by ovariotomy a cyst necrosed from twisting of the pedicle, which had been supposed to be malignant on account of the pallor of the patient. She recovered perfectly.

Dr. BANTOCK had recently met with two cases in which small tumours were found with twisted pedicles. Both tumours were found adherent, and both patients had been attacked by sudden pain, followed by symptoms of peritonitis. He thought that the twisting produced no symptoms, but that the rupture of a bloodvessel was indicated by an attack of pain.

Mr. LAWSON TAIT, in reply, said that he hoped that Mr. Thornton and Mr. Wells would publish their cases, with specific details. The rotation could not be accidental, as held by Mr. Wells, if the great majority of the tumours twisted were right-sided tumours, and the twist in a specific direction.

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A Case of Ovariotomy performed during the Sixth Month of Pregnancy without Interruption to Gestation.

Dr. ALFRED L. GALABIN, Assistant Obstetric Physician and Joint Lecturer on Obstetrics to Guy's Hospital, reports (*British Med. Journal*, March 13, 1880) the following case:—

Mrs. L., aged 29, first consulted me on June 14, 1879, on account of rapid enlargement of her abdomen during the last two months. She was then under the care of Mr. Powles, of Shepherdess Walk. She had had two children, and no miscarriages. After each delivery she thought that a lump had remained on the left side of the abdomen; but this had not been observed by her medical attendant. The last child was born in September, 1878, and died in January, 1879, having been suckled until its death. The distension of the abdomen was now much greater than at the full term of the previous pregnancies; and she was uncertain whether she was pregnant or not, having felt no fœtal movements, and having had no sickness nor other subjective signs of pregnancy. Menstruation had not recurred since the last delivery. After her first delivery she had suckled the child for eleven months; and the second child had been born when the first was fifteen months old.

On examination, it was found that the abdomen was enormously distended, and its surface, from the umbilicus downwards, was extremely œdematous, so that the superficial tissues were increased in thickness to at least three inches. An uniform and distinct fluid thrill could be felt over the whole surface of the abdomen. On vaginal examination, the cervix was found to be closed, but appeared to be softened, as in pregnancy. The resistance of the anterior vaginal wall resembled that produced by the presence of the pregnant uterus. The condition of the breasts also appeared to indicate pregnancy. No fœtal movements were felt either from the abdomen or by vagina, and no fœtal heart-sounds nor uterine souffle could be heard. On bimanual examination it was found absolutely impossible to define the size of the uterus or to ascertain the level of the fundus by the impulse communicated to the cervix. The urine was free from albumen, the legs were not œdematous, the temperature was normal, and the general health pretty good.

I considered the probable diagnosis to be that of an ovarian cyst combined with pregnancy; and, from the fact that no fœtal heart sounds nor fœtal movements could be made out, I thought that the pregnancy could not exceed four or five months in duration, conception having probably occurred soon after the death

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of the last child, and within five months after its birth. Since, however, the great œdema prevented the uterus from being defined bimanually, I considered the differential diagnosis from hydrops amnii not quite certain. The œdema of the abdominal wall made it evident that some interference would soon be necessary. I thought that, if the case should turn out to be hydrops amnii, the puncture of the uterine wall in tapping would not be without risk, although the operation has been performed without fatal result in some cases in which hydrops amnii has been mistaken for an ovarian cyst with pregnancy. (See a case reported by Dr. Kidd to the Obstetrical Society of Dublin, *Obstetrical Journal*, December, 1878.) I was, therefore, inclined to recommend an exploratory incision with antiseptic precautions, to be followed by ovariotomy if an ovarian cyst were found to exist.

Three days later the patient was attacked with general abdominal pain accompanied by dyspnœa.

On June 20th I was sent for to see her at home. I found her sitting up in a chair, the dyspnœa preventing her from lying down even at night. The œdema had now extended further over the abdomen, and the skin was reddened on the surface. The legs were also œdematous, and the urine contained a considerable proportion of albumen. There was much abdominal tenderness, and the temperature was 101.3° F., pulse 120. On examination under chloroform fœtal movements were distinctly felt from the vagina. Even under the anæsthetic the finger could not be passed into the cervix, nor could the height of the fundus be made out.

Feeling now pretty certain, from this condition of the cervix, that the case was not one of hydrops amnii, I advised tapping for immediate relief. This operation was performed under carbolic spray the same evening, and twenty-one pints of fluid were drawn off. The fluid was of specific gravity 1007, pale and slightly glutinous, containing a moderate quantity of albumen. Towards the end some soft flaky material escaped through the canula. After removal of the fluid, the fundus of the uterus was found to reach close up to the umbilicus, and the fœtal heart could be heard. The date of pregnancy was estimated at about five months. Judging from the date of the subsequent delivery, it must then have been about seven days short of five calendar months. On microscopic examination of the fluid withdrawn, numerous clusters of cells of irregular shape were found, apparently indicating the existence, in the interior of the cyst, of papilloma with proliferating epithelium, and therefore of a tendency towards malignancy. The patient was much relieved after the tapping; the albuminuria and œdema disappeared, and the febrile symptoms gradually subsided, although tenderness of the abdomen continued for some days. Immediately after the tapping the fœtal movements became at once distinctly perceptible to the patient, and appeared to her to be stronger than was usual at the fifth month of pregnancy.

On July 4th there was found to be again a considerable increase in the distension of the abdomen, and fluctuation was again perceptible over a considerable surface, chiefly toward the upper part of the abdomen. On account of the microscopic characters of the fluid withdrawn at the first tapping and the great activity of the cyst, as shown by the rapid re-accumulation of fluid, I decided to recommend ovariotomy in preference to repeated tappings or the induction of premature labour. It was, however, to be expected that the operation would prove formidable on account of the stage of pregnancy which had been reached, in conjunction with the adhesions which the recent attack of peritonitis had probably left.

I performed the operation under carbolic spray on July 7th, when the patient must have been about ten days advanced in the sixth calendar month of preg-

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nancy. The fundus uteri being felt nearly up to the level of the umbilicus, the incision through the abdominal wall was so made that its lower extremity corresponded with this spot. On tapping the cyst about eight pints of fluid were drawn off. The fluid on this occasion was not pale, but was stained by blood-pigment to a deep reddish-brown. The whole interior of the cyst was covered by papillary growth, and very vascular adhesions were found connecting it with the abdominal walls, the pelvic brim, and the uterus. The attachment, situated on the right side, was very broad, and had to be tied in sections with carbolized silk as closely as possible to the angle of the uterus. On cutting away the tumour, several small cysts, containing soft putty-like material, and covered, like the large cyst, with a papillary growth, were laid open. In order to remove the whole of the papillary surface, it was necessary to cut away the stump with scissors uncomfortably close to the ligatures, less than a quarter of an inch of tissue being left beyond them. After removal of the cyst, great difficulty was found in arresting the bleeding from the very vascular tissue of the uterus and its neighbourhood, and numerous ligatures of fine carbolized silk were applied to the bleeding points. Eventually, as blood was found repeatedly to well up from the right groin, the pedicle, which had retracted deeply, was brought into view again with some difficulty; and, as some oozing was taking place from it, an additional ligature was placed round its whole circumference. No drainage was employed, the abdominal wound being closed by silkworm-gut sutures. The operation had lasted an hour and three-quarters; and, before its conclusion, it proved necessary to replenish the boiler of the steam-spray apparatus which was in use, the wound being, of course, meanwhile suitably protected. In order to avert a miscarriage, if possible, one-third of a grain of acetate of morphia was injected subcutaneously immediately after the operation, and the same dose was repeated three or four times a day for the next few days.

On July 8th the patient appeared in fair condition; the temperature being 98.9° F., pulse 112. The morphia injections produced a considerable feeling of *malaise*, and appeared to cause vomiting. This effect was only slightly mitigated by the subsequent addition of atropine to the injections.

On the 9th the temperature was 97.2° F., pulse 106. No pain was felt in the abdomen, except when the child moved. The patient was chiefly troubled by a swollen face, the result of decayed teeth, the swelling having existed at the time of the operation.

On the 10th there were slight symptoms of peritonitis, the abdomen being painful and tender; and the temperature had risen to 101.2° F., pulse to 120. Next day these symptoms had subsided, the temperature had fallen to 99°, and no threatening of labour occurred. When the sutures were removed on the seventh day, the whole wound was firmly united.

The patient did extremely well until the fifteenth day after the operation, and had already dismissed her nurse, when she was suddenly attacked by phlegmasia dolens of the left leg, accompanied by induration in the course of the femoral vessels from the groin to the popliteal space. There was considerable fever for several weeks, the temperature rising as high as 104° F., and she became much emaciated. No miscarriage, however, occurred. I was absent from England at the time of this illness, and did not see the patient again till September 7th. The swelling of the leg and fever had then subsided, but there was still great stiffness of the thigh and knee, with tenderness and induration in the course of the vessels. From this time she gradually improved, and, during the last month of her pregnancy, had very good health. A living female child was born on October 27th. Labour lasted three days, chiefly through prolongation of the first stage. Mr. Powles was contemplating the application of forceps, but delivery

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eventually took place naturally. The former labours had been normal. A month after delivery the patient was found to be in fair health. The cicatrix of the abdominal incision was quite firm, and there was no trace of pelvic induration, nor any indication of recurrence of growth in a malignant form. She still remains in good health, except that she has a little pain in the leg, and the baby is doing well.

Microscopic sections of the cyst after removal showed that its internal surface was everywhere covered with villous papillæ. Their epithelial covering was mainly of the columnar type, but was proliferating into tufts of irregular cells easily detached. In many places the papillæ did not project freely into the cyst, but the surface was levelled by a layer of *débris* of blood and cells, similar to that often seen on the surface of a vegetating epithelioma of the cervix uteri. Beneath the papillæ was a layer of gland-like tissue, varying in depth from one-eighth to one-fourth of an inch, and evidently formed by the ingrowth of the depressions between the papillæ. Its histological structure was identical with that of columnar epithelioma, except that it was sharply limited at a very short distance from the surface. The epithelial lining of the glandular acini was mainly of a columnar type, but proliferating irregularly; and in many places the epithelium was growing in the form of prominences into irregularly dilated acini, the cells here being chiefly rounded. The fibrous stroma was infiltrated with nuclei in the immediate neighbourhood only of the glandular tissue. At a few points epithelial cells were seen in the stroma resembling those in the acini immediately adjoining.

Remarks.—The tolerance of the uterus in this patient, notwithstanding the very protracted operation, and the high fever produced by the attack of phlegmasia dolens fourteen days afterwards, appears to be remarkable. It would seem that in most, if not in all, recorded cases in which ovariotomy or similar operations have been performed at a later stage of pregnancy than the fourth or fifth month, premature labour has followed sooner or later. Thus, of the cases recorded by Mr. Spencer Wells in 1877 (*Obst. Trans.*, vol. xix.), in one (Case 6), ovariotomy was performed about the end of the sixth month, labour followed the day after the operation, but the patient recovered; in a second (Case 7), the operation was performed in the sixth month, the fœtus was expelled six hours after the operation, and the patient died; in a third (Case 9), the operation was performed in the sixth month, and the patient recovered, but premature labour came on twenty-five days after the operation. In a case mentioned by Mr. Lawson Tait (*Obst. Trans.*, vol. xix.), ovariotomy was performed in the seventh month, premature labour occurred on the sixth or seventh day, and the patient died a few hours afterwards. In a case recorded by Dr. Wilhelm Baum (*Berliner Klinische Wochenschrift*, 1877), ovariotomy was performed antiseptically about the end of the fifth month of pregnancy, miscarriage followed the day after the operation, and the patient had severe symptoms ending in a pelvic abscess, but ultimately recovered. Again, in the remarkable case of hydatids of the omentum, which simulated an ovarian tumour, and were removed by Mr. Knowsley Thornton in the seventh month of pregnancy, labour came on on the eighth day, the wound having opened after removal of the sutures on the seventh day. The patient ultimately recovered. (*Medical Times and Gazette*, November 16, 1878.) And in a case of fibroid outgrowth from the uterus, also mistaken for an ovarian tumour, and removed by Mr. Knowsley Thornton between the seventh and eighth months of pregnancy, delivery took place on the night after the operation, and the patient died on the fifth day. (*Obst. Trans.*, vol. xxi.)

It is difficult to trace a direct causation for the phlegmasia dolens by which my patient was attacked fifteen days after the operation. If there had been any

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access of septic material, notwithstanding the carbolic spray, she would not have progressed so favourably for fourteen days after so severe an operation; and if the starting point were inflammation near the pedicle, set up by the presence of the ligatures, it might have been expected that the right leg, and not the left, would have been affected.

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Oöphorectomy.

At the recent meeting of the Society of German Naturalists, in the Gynæcological Section, Prof. A. HEGAR, of Freiburg, read a paper on what he terms castration, but what is generally known as Battey's operation. He reports forty-two cases, an unusually large number, but which may be accounted for by his having many patients sent to him from a distance.

He divides his cases into five groups, the first of which includes thirteen cases, all of small tumours. He remarks that the line between ovariotomy and castration is very hard to draw; the indications and the steps of the operation when the tumour is small resembling very nearly castration. He has, therefore, included all cases where both ovaries were removed, and where they did not exceed a billiard-ball in size. The tumours were cystomata, dermoids, parovarian and the so-called tubo-ovarian cysts; both tumours being of the same variety or were in combinations. There were some cases of tubo-ovarian cysts, hydrosalpinx with adhesions of the fimbriæ to the degenerated ovaries. These were all double and complicated with extensive adhesion, and depended on inflammatory process in the pelvis. Other complications in this group were congestion of the uterus and retroversion. As a diagnostic mark between a uterine fibroid and a small ovarian tumour adherent to the uterus, he proposes a forcible attempt at separation by the finger in the vagina, in which a sort of fremitus can be appreciated from the yielding adhesions. These cases he considers as extremely difficult, the operation fully equalling an extremely complicated ovariotomy. There were two deaths, one from sepsis and one from incarceration; eight were fully cured, and three still complained of pains in the pelvic regions. The second group included twelve cases of fibromata. The tumours were not very large, not reaching above the umbilicus, excepting one only, which reached great size. He considers castration in the case of very large tumours to be of very doubtful propriety. There were three fatal cases—all septic peritonitis. In six cases the menopause ensued, and the tumours shrivelled. In one case included in the first group, there was a fibroid, which also disappeared. In the case of the large tumour mentioned, the flow stopped for six months and the patient improved; but, owing to bad surroundings and hard work, it returned, the tumour grew rapidly, and the patient died eleven months after the operation. Necropsy showed an enormous fibro-cyst. In the third group there are five cases of so-called chronic oöphoritis, cystic degeneration of the follicles with changes in the stroma, but without any neighbouring inflammation. One death occurred from incarceration. In three cases, there was immediate improvement of all the symptoms. The other case was new, but was improving. In the fourth group there were five cases where the indication for the operation was uterine disease, such as incurable retroflexion and acute anteflexion. There was one death from ileus. In two cases menopause occurred with improvement of the symptoms, and two cases are quite recent. The fifth group is of particular interest, including cases of chronic recurring pelvic inflammation, such as perimetritis and parametritis with adhesions, salpingitis, and imbedding of the ovary in firm and solid exudations. The symptoms are always severe. There were seven cases; and notwithstanding that the operations were often difficult and long, there were no deaths.

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In three cases there was menopause and cure, in one menopause and great improvement. In another there was a regular typical flow, but great improvement. Two cases were too recent to be judged. The mortality in the cases was only 16.6 per cent. In forty-seven other cases known to the author there is a mortality of 32 per cent. (The average of total deaths was nearly 25 per cent.) Four of the deaths were from septic poisoning, and three from ileus, the strangulation resulting from adhesions. The results were often disturbed in the beginning by symptoms similar to those met with at the menopause. The cases seem to prove the old idea of the dependence of menstruation on ovulation. In twenty-six of the thirty cases, the menopause was complete, in only one case there was a typical flow, due perhaps to the periodical congestion of a tender mass of exudation formed around a ligature. Strict antisepsis was used except in the first case (fatal), but not according to Lister's method. The spray he considers harmful.

The opening in the abdomen, he considers, has to be made proportionately larger than in ovariotomy, generally the introduction of two fingers is enough. Great care is needed in putting on the ligature and in closing the abdominal wound, so as to avoid abscesses.

In the discussion which ensued, Dr. Schröder of Berlin reported two cases. He operates by laparotomy and uses spray, and has seen no bad results from it. Dr. Freund of Strasburg reported three operations for myomata, and one for hystero-epilepsy, with one death. Menopause followed in all the cases, and in one only was there no atrophy of the tumour. Dr. von Langenbeck expressed his surprise that absence of the vagina had not been mentioned as an indication for this operation. He reported one such case. Menstruation occurred only once after the operation. Dr. Martin reported three new cases; two for neuralgia. In one case there was incomplete development of the uterus; both ovaries lay on the left. All these cases recovered. Dr. Müller of Bern had operated three times. In two cases the operation was not completed, as the ovaries were very adherent. The third case, ovarian neuralgia, was cured. Dr. Czerny of Heidelberg had three cases, one dying of septicæmia. In one case of hysteria, with enlarged ovaries, there was no improvement. In the other case (hysteria, with retroflexion) he had done Kœberlé's operation at the same time. He had also twice removed the uterus without the ovaries, with the result of stopping all flow. (*Centralblatt für Gynækol.*, No. 20 and 22, 1879.) In No. 20 of the same journal, A. Schücking of Harzburg reported another successful case. (See *Amer. Journ. of the Med. Sciences*, Jan. 1880, p. 286.) In the *British Medical Journal* for May 24, 1879, Prof. A. R. Simpson reports a successful case of castration, or, as he called it, oöphorectomy. His case was one of dysmenorrhœa, with ineffectual division of the cervix uteri and pelvic inflammation; "senescence" followed. After giving the history of his case, he gives a long commentary, with a table of thirty-five cases where both ovaries were removed. He gives the credit of having brought forward and popularized the operation entirely to Dr. Battey, as well as of having independently conceived and performed it. He gives as the indications, dysmenorrhœa, menorrhagia (from fibroids), amenorrhœa from absence or atresia of the vagina, and complicated with either threatened insanity, hystero-epilepsy, or convulsions. The mortality in his cases is 37.1 per cent. He prefers laparotomy to elytrotomy, and uses carbolized silk ligature, and then cuts the pedicle.

Besides the cases given above, the reporter (*American Archives of Medicine*) has collected a number of cases, some of which have been published and a few are new.

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Operator.	Total.	Laparotomy.		Elytrotomy.		Reference.
		Recoveries.	Deaths	Recoveries.	Deaths	
Hegar	42	35	7	..	..	Centralbl. f. Gyn. No. 20, 1879.
Schroeder . . .	2	2	..	..	..	Ibid.
Freund	4	3	1	..	..	Ibid.
Von Langenbeck .	1	1	..	..	..	Ibid.
Martin	3	3	..	..	..	Ibid.
Muller	3	3	..	..	..	Ibid.
Czerny	3	2	1	..	..	Ibid.
Schucking . . .	1	1	..	..	..	Ibid.
Battey	12	2	..	8	2	Trans. Am. Gyn. Soc., vol. i.
Trenholme . . .	2	1	..	1	..	Ob. Jour. Gr. B. & I., 1876.
Goodell	5	..	1	3	1	Lessons in Gynæcology.
Sims	7	2	1	4	..	Brit. Med. Jour., Dec. 8, 1877.
Engleman . . .	3	..	3	..	..	Am. Jour. Obstet., vol. xi.
Thomas	2	1	1	..	..	Trans. Am. Gyn. Soc., vol. i.
Peaslee	1	..	1	..	..	Ibid.
Sabine	1	1	..	..	..	N. Y. Med. Jour., Jan. 1875.
Von Nussbaum .	1	1	..	..	..	Dr. Goodell, loc. cit.
Tauffer	1	1	..	..	..	Centralblatt f. Gyn., 13, 1879.
Netzel	1	..	1	..	..	Ibid. 14.
Pernice	2	2	..	..	..	Arch. f. Gyn., Bd. xiv., H. 3.
Alberts	1	..	1	..	..	Centralblatt f. Gyn., 18, 1879.
Spencer Wells .	1	1	..	..	..	Am. Jour. Obstet., Oct. 1879.
Simpson	1	1	..	..	..	Brit. Med. Jour., May 24, 1879.
Kaltenbach . .	1	..	1	..	..	Hegar, Saml. Klin. Vorträge.
J. Gilmore . . .	1	1	..	..	..	Am. Jour. Obstet., July, 1878.
Martin	2	2	..	..	..	Berl. Med. Wochen., 16, 1878.
Pallen	1	..	1	..	..	Am. Jour. Obstet., July, 1878.
E. Kœberlé . . .	1	1	..	..	..	Nouv. Dict. de Méd. et C. 1878.
W. C. Frew . .	1	1	..	..	..	Am. Jl. Med. Sci., July, 1878.
Prince	1	..	..	..	1	Obstet. Gazette.
Welponer . . .	1	1	..	..	..	Centralblatt f. Gyn., 25, 1879.
Esmarch . . .	1	1	..	..	..	Ob. Jour. G. B. & I., Feb. 1879.
Tait	2	2	..	..	..	Brit. Med. Jour., Nov. 8, 1879.
Goodell	2	1	1	..	..	Personal Communication.
West	1	..	..	1	..	Ibid.
Sims	3	3	..	..	..	Ibid.
Noeggerath . .	10	8	2	..	..	Ibid.
Hunter McGuire .	2	2	..	..	..	Ibid.
	130	86	23	17	4	

Dr. Hunter McGuire of Richmond, Virginia, reports two cases. They were both ovaritis; Lister's antiseptic method and laparotomy were used. "In both cases both ovaries were removed and the pedicles tied with carbolized catgut. The result of the operation in one is eminently successful, while in the other there is a marked and continuous improvement, with a gradual subsidence of all trouble traceable to ovarian sympathy." Dr. Goodell sends two unpublished cases. The operation in each case was begun *per vaginam* but finished by laparotomy. The result in the first case was fatal; the indication was "a womb bulbous and knotty with multiple fibroids." The second case recovered, the indication being "pernicious menstruation and threatened insanity." Dr. Sims has had three cases, all quite recent, and all successful. The indication for the operation in each case was the occurrence of epileptoid attacks. The mode of operating is not mentioned. Dr. Noeggerath has had ten cases, all done by laparotomy. One death occurred from sepsis and one from hemorrhage. Dr. Battey has had three new cases. Dr. Trenholme writes "that the case in which I removed the one ovary is much improved but not well, and as for the other there is nothing new to report."

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The total of cases thus collected is 130; of these 104 recovered and 26 died—or a mortality of 20 per cent. The reporter counts Esmarch's case, although it was one of hernia, and also all of Müller's, for although in two of them the operation was not finished, still the danger to the patient was fully as great.

Of the cases operated on by laparotomy, leaving out Dr. Sims's case as uncertain, there was a mortality of 20.7 per cent. The cases by elytrotomy show a mortality of only 19 per cent. Still this apparent advantage is more than counterbalanced by Dr. Goodell's experience, where in two cases he was unable to reach the ovaries after opening the vagina, but had to increase the danger by making a second incision

Later reports from Drs. Sims, Goodell, and West, show that all their cases, classed above as doubtful, have recovered. This will bring down the death-rate somewhat.—*London Med. Record*, March 15, 1880.

Medical Jurisprudence and Toxicology.

Recovery from Opium Poisoning.

The recovery of an infant after a large dose of opium is so rare as to deserve notice. An instance lately brought before the Académie de Médecine is one of the most remarkable on record. A teaspoonful of "laudanum de Sydenham" was given to a child three weeks old, in mistake for syrup of chicory, which had been prescribed for constipation. The mistake was made at 9 A. M., and was immediately discovered and an emetic given without effect. M. NICHOLAS, who records the case, saw the child soon afterwards, and ordered sixty grammes of a decoction of galls, and coffee in abundance. The first symptoms presented themselves two hours later, and consisted in somnolence and evidence of nausea, accompanied by tonic convulsions, after which the child passed into a state of prostration or rather of complete inertia, which continued during the day. The convulsive attacks were brought on by every attempt to administer a liquid by the mouth, and gradually became more frequent and severe. Even the heart ceased to beat during the syncopal condition which succeeded the attacks of convulsion. As long as they continued there was neither vomiting nor action of the bowels, nor was any urine passed during the first twelve hours. During the attacks of syncope, artificial respiration was kept up. Twenty times the child was thus apparently kept from immediate death. At 7 P. M. the somnolence appeared to diminish; the child opened its eyes and looked around. The next day witnessed a marked reaction; the pulse rose to 180, and in the afternoon a little milk, with a few drops of brandy, was swallowed. The following morning the child was sufficiently recovered to take the breast, and on the fourth day was well.—*Lancet*, March 13, 1880.

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MEDICAL NEWS.

Colour-Blindness and Railroad and Steamboat Employés.—The Connecticut legislature has recently passed an Act authorizing the State Board of Health to prepare rules and regulations for the examination of railroad employés in regard to colour-blindness. Every company in the State is obliged to hold such examinations on or before the 1st of October.

The U. S. Treasury Department has also recently issued an order requiring pilots to be examined for colour-blindness before receiving licenses. These examinations are made gratuitously under the direction of the U. S. Marine Hospital Service.

—

A Four Years' Medical Course.—Harvard University announces that hereafter the course of study in the Medical Department recommended by the Faculty covers fours years, but until further notice the degree of Doctor of Medicine will continue to be given upon the completion of three years of study. All candidates for admission who hold no degrees in arts or science must pass a written preliminary examination in English, Latin, Physics, and any one of the following subjects: French, German, Elements of Algebra or Plane Geometry, Botany. The admission examination will be held June 28th at Boston, Chicago, and Cincinnati; on September 27th at Boston only. The collegiate year extends over nine months, beginning September 30th.

It is stated that the College of Physicians and Surgeons, New York, intends to extend its next winter course to seven months.

—

International Medical Congress of 1881.—The preliminary steps are now being taken to hold an International Medical Congress at London, between the 4th and 15th of October in the year 1881. The committee encharged with making the necessary arrangements consists of delegates from the Universities, Colleges, and various Medical corporations of Great Britain.

—

Meetings of Medical Societies.—The following State Medical Societies will hold their annual meetings in June:—

West Virginia Medical Society, at Parkersburg, June 2.

Massachusetts Medical Society, at Boston, June 9.

Minnesota Medical Society, at Albert Lea, June 15.

New Hampshire Medical Society, at Concord, June 15.

Ohio Medical Society, at Cleveland, June 15.

There appears to have been considerable misapprehension as to the day of meeting of the Kentucky State Medical Society. It is now authoritatively stated that the Society will convene at Lexington on the 19th of May, and not on the 4th, as has been heretofore announced.

The annual meeting of the American Medical Association will be held at New York, June 1st.

The American Neurological Association will meet in the same city on the 15th of June.

The Sixth International Congress of Ophthalmology will meet this year at Milan on the 1st of September, and continue in session four days. The address

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of the Committee of Organization, of which Prof. Quaglino is president, is Via S. Andrea, 13. Milan.

—

Dust Workers.—The prevalence of phthisis among artisans who are engaged in dusty occupations is well shown in a series of observations made in the hospitals at Breslau and Würzburg, quoted in the *Times;* the percentage of cases being classified as follows: Of those who work in metallic dust, the percentages were, needle-polishers, 69.6; file-cutters, 62.2; lithographers, 48.5; sieve-makers, 42.1; grinders, 40.4; compositors, 36.9; watchmakers, 36.5; type-founders, 34.9; engravers, 26.3; dyers, 25; varnishers, 25; painters, 24.5; printers, 21.6; beltmakers, 19.7; tinkers, 14.1. Of those who work in mineral dust: flint-workers, 80; grindstone-makers, 40; stonecutters, 36.4; plasterers, 19; porcelain-makers, 16; potters, 14.7; carpenters, 14.4; masons, 12.9; diamond-cutters, 9; cement-makers, 8.10. Of those who work in vegetable dust: cigar-makers, 36.9; weavers, 15; rope-makers, 18.9; millers, 10 9; bakers, 7; chimney-sweepers, 6.5; coal-miners, 0.8. Of those who work in animal dust: brushmakers, 49.1; hairworkers, 32.1; upholsterers, 25.9; fellmongers, 23.2; turners, 16.2; hatters, 15.5; button-makers, 10. Of those who work in mixed dust: glass-cutters, 35; glass-makers, 17.8; labourers, 15.1.—*British Med. Journal*, Jan. 31, 1880.

—

An Improved Nitrate of Silver Caustic.—Dr. SAWOSTIZKI (*St. Petersb. Med. Woch.*, March 25, 1880) called the attention of the Moscow Surgical Society to an improvement in the preparation of sticks of nitrate of silver. It consists in melting together five parts of nitrate of silver with one part of nitrate of lead, forming an argentum plumbo-nitricum. Sticks formed of this are preferable to those of the ordinary nitrate, as they are not easily broken, and can be pointed just like a lead pencil.—*Med. Times and Gaz.*, April 3, 1880.

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Graduates in Medicine in 1880. (*Continued from* p. 252.)

College of Physicians and Surgeons (New York)	117
College of Physicians and Surgeons (Baltimore)	110
University of Maryland (Baltimore)	66
National Medical College (Washington)	8
Chicago Medical College	37
Medical College of Indiana (Indianapolis)	61
Central College of Physicians and Surgeons (Indianapolis)	12
Medical College of Evansville, Indiana	5
College of Physicians and Surgeons (Kansas City)	17
Atlanta (Ga.) Medical College	48
University of Louisiana (New Orleans)	49

Making with the graduates reported last month a total of 1932 in the United States.

McGill University (Montreal)	30
University of Bishop's College	6

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Jefferson Medical College, Philadelphia.—At a meeting of the Board of Trustees of this Institution, held on the 12th ult., HENRY C. CHAPMAN, M.D., was unanimously elected Professor of the Institutes of Medicine and Medical Jurisprudence, to succeed the late Dr. J. Aitken Meigs. Dr. Chapman is a grandson of the distinguished Dr. Nathaniel Chapman; he is well known as an ardent student of comparative anatomy, and has been a frequent contributor to the Proceedings of the Academy of Natural Sciences; he is the author of a

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volume on the "Evolution of Life," which was published in 1873, and elicited very favourable criticism. He now occupies the chair of Physiology in the Pennsylvania Dental College, and during the past winter he completed the late Prof. Meigs's course on Physiology at the Jefferson College to the great satisfaction of the class.

The Board of Trustees have also elected Dr. William Thomson Honorary Professor of Ophthalmology.

—

The Louisville Medical Schools.—The Louisville Medical Schools have agreed to advance their fees to seventy-five dollars, exclusive of matriculation, demonstrators, and diploma fees. It is reported that important regulations in regard to the time of actual attendance, the date of issuing tickets, etc., have been made.

—

Southeast Missouri Medical Association and Higher Medical Education.—This society at its last annual meeting adopted, by unanimous vote, the following resolutions:—

Resolved, That the Southeast Missouri Medical Association cordially indorses the action of Harvard Medical College, Bellevue Hospital Medical College, Medical Department of Yale College, Medical Department of University of Pennsylvania, Georgetown Medical College, and the Chicago Medical College, in their endeavors to elevate the standard of medical education by making a preliminary examination and a three-year course the requisite to graduation.

Resolved, That no member of this Association should receive any student unless said student first pledges himself not to enter any medical college in the United States, except those requiring a preliminary examination and a three-year course of graded instruction.—*Med. Record*, Dec. 13, 1879.

—

Transfer of the Library of the Medico-Legal Society to the New York Academy of Medicine.—The Committee of the Medico-Legal Society appointed to consider the advisability of the transfer of the library presented a favourable report, the consideration of which was postponed until the next meeting. The library is said to be the largest, with two exceptions, of its kind in this country.

—

Literary Notes.

The New Sydenham Society announces the fifth volume of Hebra on "Diseases of the Skin," and the third part of the Society's "Lexicon of Medicine and the Allied Sciences," as the first works of the series for 1880.

Henry C. Lea's Son & Co. have just issued Foster's "Physiology," edited by Dr. Edward T. Reichert, Demonstrator of Physiology in the University of Pennsylvania, and announce as in preparation a volume on "Electricity in its Application to Practical Medicine," by Dr. Roberts Bartholow, and a treatise on "Preventive Medicine," by Dr. B. W. Richardson, of London.

Mr. Presley Blakiston has just published in his series of Health Primers, "Our Homes," by Dr. Henry Hartshorne; and "Sea Air and Sea Bathing," by Dr. John H. Packard. He has in press Wilson's "Domestic Hygiene," edited by Dr. J. G. Richardson, and announces "A Dictionary of German Medical Terms," by Dr. Fancourt Barnes (to be published in London by H. K. Lewis).

G. P. Putnam's Sons announce "Contributions to Orthopædic Surgery," by Dr. J. C. Hutchison, of Brooklyn; "The Hysterical Element in Orthopædic Surgery," by Dr. Newton M. Shaffer, of New York; and "Ophthalmic and Otic Contributions," by Drs. St. John Roosa and E. T. Ely, of New York.

Mr. F. Leypoldt, of New York, the enterprising publisher of the *Index Medicus*, announces, that, notwithstanding the actual pecuniary loss incurred by the

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issue of this journal for 1879, he has determined to continue its publication for another year, in the hope that as it becomes better known to the profession it will receive the liberal support which it unquestionably merits.

The *Index Medicus* is issued monthly, and records the titles of all new publications in Medicine, Surgery, and the collateral branches, received during the preceding month. These are classed under subject-headings, and followed by the titles of valuable original articles upon the same subject, found, during the like period, in medical journals and transactions of medical societies. The periodicals thus indexed comprise *all* current medical journals and transactions of value, so far as they can be obtained. The compilation is under the supervision of Dr. John S. Billings, and Dr. Robert Fletcher, of the Library of the Surgeon General's Office, and their names are a guarantee of the ability and thoroughness with which the work is done.

It is superfluous to speak of the value of a monthly classified record of the current medical literature of the world, and its permanent establishment deeply concerns every student, thinker, and writer in the profession.

We trust that Mr. Leypoldt's appeal may meet with a cordial response in an enlarged subscription list, without which the permanence of the Index cannot be hoped for.

—

Resolutions of Respect to the Memory of the late Dr. Isaac Hays.—At the Tenth Annual Meeting of the Alumni Association of the Medical Department of the University of Pennsylvania, held March 15, 1880, the following resolutions were adopted:—

Resolved, That in the death of Dr. ISAAC HAYS, the late venerable editor of The American Journal of the Medical Sciences, and recently Vice-President of this Society, we mourn the loss of the most distinguished of the then living University Alumni, and one of the most revered and valued members in the world of the profession, whose best interests he so ably and faithfully defended and advanced.

Resolved, That the influence and example of his whole course, for more than half a century, of constant editorial, literary, scientific, and professional activity of the highest character, cannot be estimated in their value not only to the profession and its institutions of this country, but of the whole world.

Resolved, That we cherish his memory in common with that of our late president [Dr. George B. Wood] as one of the ablest, earliest, and most powerful advocates of the elevation of the standard of medical education in America, and we derive much consolation from the fact that they both survived long enough to enjoy some measure of reward in the recent advancement of their Alma Mater, and the certainty of progress which was so near to their hearts.

—

OBITUARY RECORD.—Died at San Francisco on the 27th of February, aged 74, HUGH HUGHES TOLAND, M.D., Professor of Surgery in the University of California.

Professor Toland was a native of North Carolina, was educated at Transylvania University, and studied in Paris under Roux, Dupuytren, and Lisfranc. He settled in San Francisco in 1853, and soon achieved a large and lucrative practice. In 1864 he founded a medical school, and at his own expense erected the building for the Toland Medical College, which in 1872 he transferred to the University of California, of which the college became the medical department. Dr. Toland was the author of "Lectures on Practical Surgery," published in 1877.

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THE

MEDICAL NEWS AND ABSTRACT.

VOL. XXXVIII. No. 6. JUNE, 1880. WHOLE No. 450.

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CLINICS.

Clinical Lectures.

ON SOME DISORDERS DEPENDENT UPON GENITAL IRRITATION; PROPER TREATMENT OF TALIPES, ETC.

AN ABSTRACT OF A CLINICAL LECTURE DELIVERED AT BELLEVUE HOSPITAL.

BY LEWIS A. SAYRE, M.D.,

PROFESSOR OF ORTHOPÆDIC SURGERY IN BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK, ETC.

[Reported by F. Gundrum, M.D., and revised by the Author.]

CASE I.—The first case I have to show you to-day is one of loss of co-ordination and spastic contraction of the lower extremities, with strongly marked talipes equino-varus in both feet.

The mother gives the following history: The patient's name is Anna, and she is ten years of age. She seemed to be normally developed at birth, though the mother thinks the lower extremities were not proportionately well developed with the trunk. Three months after birth an abscess began to develop in the neck. It was finally opened and emptied of its contents. It continued to discharge pus for a long time. She also had some difficulty of vision, but the cause is not very clear. Her health became very delicate and remained so for several years. When she was about thirteen months of age she made some efforts at creeping, and at two and a half years she began to walk some, which was, however, very imperfectly and awkwardly done. As she continued to make efforts at walking, her knees began to give way and she became quite "knock-kneed." She also no longer put the whole plantar surfaces on the floor, but gradually began to walk "on her toes." In this awkward condition she continued to get around in the room by the aid of assistants, chairs, and beds, until five years of age, when she met with a serious accident. She fell a distance of thirty feet, through a skylight. Although no apparent serious damage had been sustained, the child made no more efforts at locomotion for nearly two years. Many efforts have been made by surgeons and at some of the orthopædic institutions of this city to correct her deformities, but with no success worth speaking about.

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She is able, by the aid of assistants, to move small distances, or stand up while holding to a chair, and when she does so she stands on "tip-toe," and her knees are tightly pressed together. The mother states that she has been annoyed, constantly, from her birth to the present time by thread worms (oxyuris vermicularis), making her existence almost unbearable. They accumulate in the rectum in great numbers. They torture her so that the mother has to use enemas, or extract them with her finger. They not only produce great irritation in the rectum, but voluntarily leave that abode and get on the verge of the anus and into the genital tract. The little girl has always suffered from genital irritation. She desires to urinate often, and suffers considerable pain during the act. She puts her hands to her genitals frequently, but the mother is positive that it is for no vicious purpose.

About three years ago her general health began to improve, and has continued to do so until now, when we find her a well-nourished girl of average size. About four weeks ago a leucorrhœal discharge was noticed, which continued to increase for three weeks, at which time blood was mixed with it. Both discharges, however, have ceased. The mother thinks the child is somewhat backward intellectually. As you now observe she is unable to stand alone. When we ask her to move the lower extremities she makes many efforts before she succeeds, and then only slightly raises the thigh. When she endeavours to walk the limbs are moved altogether at the hip, while the thighs are strongly adducted, and as she brings one limb in front of the other, it crosses in front of its fellow. When the other is brought forward, it strikes the opposite limb behind. The upper extremities also lack in the co-ordinating power, as you see the movements of her arms are slow, halting, and uncertain. She has a peculiar unintelligent, silly look. We are unable to fix her attention on anything long at a time. She soon gets out of patience, cries, and the next moment bursts out into a laugh—laughs while the tears still trickle down her cheeks—showing in a very marked degree what is known as hysteria. Having bared her lower extremities, you will observe that her limbs are of good size, the thighs slightly flexed, and strongly adducted, and the legs are flexed on the thighs. The feet are in extreme extension, forming talipes equinus. Anterior to the mediotarsal joints the feet are turned inwards, forming the deformity to which we apply the name of varus.

When I come to examine the plantar surfaces I find the arch deepened and shortened, and the fascia very tense. So here there is a double deformity, an equinus and varus. When two deviations occur in the foot at the same time, the names are associated, prefixing that one which represents the greater deformity; so in this case, the equinus being the greater, the deformity is called talipes equino-varus.

The deformity is much more marked in the right foot, and you can notice this hard projection in front of the tibia, which is the scaphoid subluxated. If I ask the child to separate her thighs, she makes some effort but fails to get control of her muscles. By taking hold of the knees and making an effort to separate them for her, I find it takes considerable force, gradually applied, to make abduction to any extent, the muscles being rigid and unyielding. I find the muscles of both lower extremities in the same condition. Having flexed the leg upon the thigh at an angle of about 45°, so as to relax the extensors of the foot, I will see how near the foot can be restored into its normal position. As you see, by great force,

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gradually applied, I am enabled to bring the foot at right angles with the leg, or nearly so. By increasing the flexion of the leg, so as to relax the gastrocnemius and soleus as much as possible, I can carry the extension of the foot still a little farther. I have continued this now as far as possible. You will now ask the question, and justly so, if the extensors can be stretched thus far, why not farther—gradually, until they allow the foot to assume its shape, and the deformity is cured.

This question is easily decided by the following test. Having carried extension as far as possible, I have put the tendo-Achillis tightly upon the stretch. While holding it in that position, I take my thumb and make additional pressure on it, and, if under this additional tension there is no reflex spasm, you can stretch it still further, and a cure may and can be effected without tenotomy; but, if, on the contrary, that additional pressure produces reflex spasm at the time, tenotomy must be performed, as you can never cure your case without it. You see the additional tension produces immediately a reflex spasm, and therefore we shall perform tenotomy. In bringing both tendo-Achilles under this test, also the plantar fasciæ, we find that they give the reflex spasms, and must be divided. When you obtain this test, you may know structural change has taken place, and no amount of tension, however applied, will ever restore the parts into their normal position.

The assistant will now proceed to give the child chloroform, but before doing so I will see that her clothing is not constricting her neck, chest, or waist. This is a very important point to look after before the administration of an anæsthetic, and I advise you to never neglect it when you come to practise your profession.

I now show you the instrument I shall use to divide these tendons and fasciæ—my tenotome. The instruments you will find for sale in most of the establishments are a sharp-pointed straight knife. Never use one of them under any consideration. They are dangerous.

The next objection is that they have a straight cutting edge. This instrument you see has a convex cutting edge and a concave strong back. It is very narrow, not exceeding a line, and has a broad convex point. Here is an instrument that claims to be an exact counterpart of mine, but you see the blade is twice as wide. I have never met with an accident in dividing the muscles, tendons, and fasciæ, and I attribute no little to the instrument I use. If you use a sharp-pointed tenotome, if a vessel or nerve comes before it, you are certain to puncture it, but with this rounded point, which is not very sharp, such tissues will slip away before it.

The patient having become completely narcotized, I shall proceed with the operation.

Turning the patient over on her side, so as to turn the plantar surface upwards, I have the fascia put tightly on the stretch by an assistant grasping the front part of the foot, and, making strong extension, I search for the inner border of the plantar fascia, and, having found it, I introduce the tenotome flatwise through the skin, and now I am able to feel the inner border of the fascia with the point of my knife. I gradually sink my instrument until I feel I am under the fascia. Then I pass the knife horizontally under it until I have reached the other side. I now turn the cutting edge of the instrument upward against the fascia, and my thumb is placed over it. I press the fascia on the knife, at the same time giving the latter a gentle to-and-fro motion until all the contractured tissues are divided. I

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turn the knife on the flat again and withdraw it, and as I do so I follow it with my thumb and squeeze out what blood there may be in the wound and guard against the ingress of air. On removing my thumb I apply a piece of adhesive plaster quickly, so as to hermetically seal the wound, over this I place some cotton wool, and secure both with a roller. The assistant now renders the tendo-Achillis tense by forcibly extending the foot, while I divide the latter just as I did the plantar fascia. After having divided, hermetically sealed, and applied the cotton and roller, as above described, the whole foot, excepting toes, is enveloped in cotton wool, to guard against injurious compression, and a roller is applied over the foot and ankle for about five or six inches above the latter. An extra thickness of cotton should be applied to the sole of the foot.

I now bring the foot straight on into its normal position, which you see, the foot being at right angles with the leg, and as I cannot sit here and hold it until the result of the operation shall be repaired, I shall endeavour to accomplish the same end by the following dressing: Take a thin board, such as a shingle or the lid of a cigar box, and cut it so that it shall be about a quarter of an inch wider, and about three inches longer than the foot, modelling it after the shape of the latter. Then take a strip of adhesive plaster about two and a half inches wide, and of sufficient length to surround the foot board, and reach above the knee. Now take the board into your hand, the heel towards you, and wind the adhesive plaster around it lengthwise, commencing within an inch or two of the front of the board on the under surface (the adhesive side being next to the board). Bring it forward over toe end, back over the heel end, and then forward on the under side to the front, catching the end where you started. After having wrapped the board in this manner, your adhesive plaster should still be sufficiently long to reach half way up the thigh.

Take another strip of adhesive plaster from one to two feet long, owing to the size of the foot, and an inch or two wide, and fasten it about its middle to the heel of the board, in such a manner, that about half the width of the plaster will catch the under surface of the heel of the board. I do this in order to get a good hold so that it cannot slip off. Now apply a thick layer of cotton on the board that is to go next to the foot and apply a roller pretty firmly, so as to prevent the cotton from slipping. This always should be done, so as to thoroughly protect the bottom of the foot from pressure. In many of these cases the tissues about the feet are extremely insensible to irritants, and having a low vitality extensive sloughing might be the result from applying the board if not well cushioned.

Now apply the cushioned surface of the board to the sole of the foot, allowing the heel of the board to project an inch beyond that of the foot. While holding the foot at right angles with the leg, and the board firmly against the bottom of the foot, take one end of the plaster fastened to the heel of the board, bring it forward across the dorsum of foot to the opposite side of the foot from where you started, and pass it over the edge of the board to the under surface, where you fasten it. Then take the other end of the same plaster and follow the same movements, except that you carry it to the opposite side. After having completed this sandal-like fastening you take a roller and firmly secure the "foot-piece" to the foot. Should the foot have a tendency to turn in or out, an extra strip of adhesive plaster becomes necessary.

In this child, you see, the foot is inclined to turn inwards, and, therefore, I shall take this strip of plaster, which is about one and a half inch wide

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and a foot and a half long, start with one end on the outer side and front part of the foot, pass it across the dorsum toward the inner border under the foot and bring it to the outer edge and secure it with a few turns of a roller. The wide strip of adhesive plaster at the front of the board is now carried up the leg to the knee, or, where a good hold can be obtained, as in very little children, half way up the thigh. The guy is now carried up on the outer or inner side of the leg, as the case may be, and tension applied until the lateral deviation is corrected. The strip carried up the front is applied to the leg, while the foot is at right angles—both are secured to the leg by a roller. The extra lengths of the plasters are reversed, which causes the dressing to remain in place longer. One caution is necessary in applying this dressing, viz., *that you leave the toes exposed so you can always keep watch of the circulation.*

Having completed the dressing of this, the right foot, I shall proceed to the left one, where I shall divide the same tissues and apply a similar dressing.

You see both feet dressed, and perfectly straight. Were I now to put the child in the erect posture she could stand squarely on the soles of her feet. This is a simple, inexpensive dressing, obtainable anywhere, and for effectiveness is superior to any or all the dressings I know anything about.

Formerly surgeons did not treat their cases as we have this one to-day. I refer to the correction of the deformity *immediately* after the sections. It was the practice, and I am exceedingly sorry to say is to a great extent still, to allow the foot to remain in its deformed position for a number of days, until the external wound has cicatrized, and the division of the tendon repaired to a slight degree. As soon as the surgeon thought that glutinous material had been thrown out between the ends of the tendons and began to organize, he then, and not until then, could commence to correct the deformity. He commenced to apply traction, in order to stretch this new material that nature was throwing out between the ends of the tendon. This he was to continue until he had cured the deformity. I have followed this plan myself years ago, but it was tedious, caused the patient untold misery, and seldom succeeded. In the few cases where it did succeed in correcting a deformity, the stretched tendon was too feeble to give proper support.

Meeting with so much difficulty with this method of treatment, and the permanent good accomplished being so seldom satisfactory, I finally concluded to abandon it. I determined to restore the parts immediately after performing tenotomy, being certain the result could not be much worse if the divided ends never united than where the union was so feeble. But to my great surprise and satisfaction I discovered that, after ten to twelve days, the patient could move his foot by bringing into action the muscle of which tendon had been severed—clearly showing that union was possible while the divided ends were separated. Since then I have abandoned the old for the new method, and after many years of a large field of experience, I pronounce the latter method as the proper one.

This is to me an extremely interesting case. I have shown you several cases during the last winter in my clinic, very similar to this, in male children due to congenital phimosis. In them, as in this little girl, there was loss of co-ordination, and paresis and rigidity of the muscular tissue of the lower extremities, the nervous system exhausted, and the mind much impaired, amounting in one case to an idiotic condition. In none

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of our cases, however, have we noticed the hysterical condition that we see in this little girl. What is the condition of this little girl due to? I believe it to be due to genital irritation, and I also believe that the source of irritation has been the presence of the oxyuris in the genital tract.

The future treatment of this patient will be to remove the source of irritation of the genital organs by destroying, if possible, the parasite which produces it, and to restore muscular power.

I shall leave on this dressing for eight or ten days, and then remove it, when I shall expect to see all the incisions firmly united. The feet will then be redressed for a week or two longer, until the tendons and fasciæ have firmly united. I shall then maintain the feet in proper position by the aid of properly fitting shoes, and elastic force if necessary, while I restore the muscles to a healthy condition by the use of massage, properly directed gymnastic exercise, electricity, etc. etc.

CASES II. and III.—I have next to show you a pair of male twins. The mother brought them to my office some two weeks ago to consult me in regard to a hernia, which had been developed in each since their birth. I found an inguinal hernia in each on the same side. While examining the hernia of the first child I discovered that the penis was unusually large, and in a state of semi-erection. On questioning the mother she stated that the penis was in erection a great deal of the time; that the children cried a great deal; that when they urinated they strained very hard, and screamed as though they were suffering extremely. Both were in the same condition. On closer examination the opening in the prepuce was found extremely small, and it was with great difficulty that the mouth of the urethra could be seen. The latter was very red and angry looking, and on being touched a spasm of the lower extremities followed. Behind the corona glandis there was noticed a large, hard swelling.

There is not the least doubt in my mind, gentlemen, but that the hernia is a result of the phimosis. The very small opening in the prepuce which prevented a free discharge of urine, and the extremely irritable condition of the mouth of the urethra, causing excruciating suffering every time urine passed over it, were the cause of the crying and straining which brought on the hernia.

I consider it for these children extremely fortunate that this genital irritation has been discovered so early—before it has had time to seriously enervate the nervous system with all its evil consequences. In order to prevent any further ill effects on the system, it will be necessary to free the glans penis in each one by an operation.

I will now perform the operation of circumcision. I catch hold of the end of the prepuce with my fingers and draw it forward. I now place a pair of Henry's forceps in front of the glans, grasping the prepuce. When I have drawn through the amount of prepuce I wish to excise, I firmly close the blades of the forceps, and lock them. Having done this I take a sharp bistoury and cut off the prepuce in front of the blades of the forceps. I now unlock the forceps, and free the prepuce. As you can all see, I have cut off the outside skin only, the mucous membrane remaining. I have not enlarged the opening in the prepuce in the least, and the glans is as much imprisoned as before.

I have seen several cases where the surgeon, when he had gone thus far, thought he had completed the operation. Only a few days ago a boy, eight years old, was brought to me from Florida where this was the case. After many months cicatrization took place, and left the child worse than

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he was before. The cicatricial tissue had contracted, and was hard and unyielding. To avoid any such bad consequences you now see me pass this small grooved director into the preputial opening in front up to the glans. You see I do this with considerable difficulty, owing to the agglutination of the prepuce and glans. I am unable to carry the director entirely up to the corona, consequently I shall divide the mucous membrane as far as the director has been passed. Having done this I now separate the mucous membrane from the glans, by tearing it loose, with my thumb and fingers.

Having entirely separated the glans and prepuce, you see, the corona is very red, and behind it I find hardened, gritty smegma. Having completed the operation thus far, I want next to call your attention to an extremely important part of this procedure, viz., the frænum. This you will usually find very short, with pockets on either side.

Never consider your operation completed until you have broken down this shortened band of mucous membrane. Should you neglect it your operation will, in all probability, remain without any benefit to the patient. Having broken down the band of mucous membrane, the frænum, see that neither it nor the outside skin in any way constricts the penis—*if there are any constricting bands they must be divided.* The operation being completed I shall dress it as follows: In very small children I seldom use sutures, but bring the cut edges of the skin and mucous membrane accurately together, behind the glans, and then take a soft piece of old linen cloth, or lint, and wrap around the penis over the coaptated cut edges. I allow the meshes of the cloth to become saturated with blood, and if hemorrhage does not cease I apply over this some styptic cotton. Then I form a circular pad, with a hole through the centre, into which the penis is placed and allowed to remain, excepting when the dressings are renewed, until cicatrization is complete. A pledget of lint dipped into water is placed over the glans, and the whole retained in place by a diaper. This dressing will remain on for five or six days, when I shall expect union to have taken place.

There is one thing I want to caution you against, and that is, if cicatrization should be delayed, to guard against subsequent adhesion of the prepuce to the glans, or the formation of cicatricial bands. Many a surgeon has met with failures by not observing this precaution.

Note. May 1, 1880.—The first case, that of the little girl, has improved beyond all expectation. The dressings of both feet were removed on the eighth day, and very fortunate it was. Although the feet were protected from pressure by thick layers of cotton-wool, if the dressing had been allowed to remain on a few days longer extensive sloughing on the instep would have been certain. As it was, only superficial destruction of the skin over a small area took place. The same dressing was reapplied, and changed once in two or three days for three weeks. Properly-fitting shoes were then applied (ordinary shoes made to fit the child), which retained the feet in proper position without any elastic force. Since then she has had electricity applied every other day, and the muscles of the thighs and legs have been manipulated daily, the peronei receiving especial attention. The general health has been improved by proper dieting and plenty of outdoor exercise. The patient has received daily training in the use of her muscles, and especial effort has been exerted to "hitch her brain to her muscles"—to improve her will-power, and inspire confidence in her own capabilities.

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She is now able to abduct her thighs to their fullest capacity—her limbs are perfectly straight. They have increased in size and strength. She is now able to walk alone across the room. When the feet are bared, they can be held perfectly straight; she can extend and flex them very nearly perfectly. When they are carried to extreme extension, the feet turn slightly inwards, showing a deficiency of power in the peronei muscles. F. G.

ON THE "SUMMER COMPLAINT" OF INFANTS.

A CLINICAL LECTURE.

By J. LEWIS SMITH, M.D.,

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GENTLEMEN: The hot weather is now approaching, during which the most prevalent and fatal disease of the cities is the so-called "summer complaint" of infants. It is especially fatal in the large cities of the Atlantic coast. It is an intestinal catarrh, which begins to appear in the middle and latter part of May, and becomes more and more frequent, reaching its maximum prevalence and severity in mid-summer, after which new cases are less and less frequent till the last of October, when the epidemic gradually disappears, and no cases remain except such as have lingered from the hot months.

The "summer complaint" is, anatomically, a catarrh of the lower part of the small intestine, and of the entire large intestine: the inflammatory lesions being, in fatal cases, most marked in the descending portion of the colon, and especially in the sigmoid flexure, where the excrementitious matter is most apt to be delayed and to accumulate. The greater thickening and redness of the mucous membrane in this locality, which I have often observed at autopsies, has seemed to me chiefly due to the irritating nature of the fecal matter, just as the erythematous redness of the skin around the anus present in certain cases, arises from this cause. The ulcerations which are apt to occur in grave protracted cases, and which are circular and seem to correspond in site with the solitary glands, are also most numerous in the descending colon, and particularly in the sigmoid flexure. Most cases of this disease occur prior to the age of two and a half years; so that the "summer complaint" is almost peculiar to infancy. But the first years of childhood are not entirely exempt.

There are two important factors in the causation of the "summer complaint:" 1st, The atmospheric heat, which acts as a causative agent, not so much by its direct effect on the system—though its direct enervating influence may act to a certain extent, as a cause, by impairing the general tone of the system, and the digestive function in particular—as by producing foul gaseous exhalations from the decaying organic matter, which always exists in considerable quantity in and around the crowded domiciles of the poor in our cities. Abundant observations show that the "summer complaint" is most frequent and fatal in those localities, where the streets, court-yards, and apartments are most filthy. In these places the foul odours are often very perceptible to the visitor. The operation of this

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cause seems to me to be similar to the foul air of the dissecting-room, in former times, when the medical student remaining long at dissection was apt to be incommoded by attacks of diarrhœa.

2d. The other cause is not less important, and in a large proportion of cases its action is apparent. It is the use of unsuitable food. For food which the feeble digestion of the infant cannot assimilate, soon begins to undergo fermentative changes, and acts as an irritant and purgative. It is the common opinion among families that the "summer complaint" is most frequent and dangerous in the second summer, but many observations establish the fact, that the first summer possesses no immunity, but on the other hand, the younger the infant, the greater the liability to be attacked if the diet is improper, and the reason why so many infants remain well in the first summer is that they are nourished at the breast, and this second factor or cause is not operative in them.

It is not my intention at this time to speak at length of measures designed to prevent the "summer complaint," or of the hygienic measures required in its treatment, except to state certain facts, which are very important, and the knowledge of which will materially assist the physician who has had little experience with the disease. First, every infant under the age of twelve months in the city should, if possible, have the breast milk during the hot season. If the mother be not competent to furnish it, a wet-nurse should be employed. If it cannot have the breast milk, the family should be urged to go to the country, especially during July and August. Never consent to the weaning of an infant in or just before the hot weather. Statistics which I have preserved, bearing on this point, show a most disastrous consequence. The new diet will not agree, and if weaning be necessary, insist on removal to the country.

But there is a large number of infants in the families of the city poor that are weaned at this improper time, no physician having been consulted, and a large number also who are wet-nursed, but the breast milk is insufficient, and it is necessary to employ more or less artificial food. Now it is very important to decide what kind of food should be given. The shops contain several so-called "substitutes" for breast milk, but the milk of the cow or goat more closely resembles human milk, than do any of these "substitutes," and when sufficiently fresh, and of good quality, it is to be preferred, I think, for most infants. For an infant under the age of two months it should be diluted with one-third its quantity of water; for those between the ages of two and five months, one-fourth or one-fifth its quantity of water should be added; while for those over the age of five months, no dilution is ordinarily required. The infant after the age of one month should not take the breast more frequently than every second hour, and for artificial feeding it is well to have a little longer interval.

The caseum of cow's or goat's milk is apt to coagulate in the stomach of the young infant in large masses, which are with difficulty digested. To aid, in a measure, in preventing this a thin farinaceous food, as barley-water, or rice-water well boiled, may be mixed with the milk. The farinaceous particles intimately mixed with the caseum tend mechanically to prevent the coagulation in large masses. In an infant now under observation in the New York Infant Asylum, cow's milk given in the ordinary way caused vomiting, but, by preparing from it a wine whey, with a small proportion of sherry wine by which a considerable part of the caseum is removed, it is no longer troubled with indigestion and is doing well. The employment of fresh wine whey, thus prepared, will often be

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found useful, at least as a temporary expedient, when the infant vomits milk prepared in the ordinary manner, and containing the full amount of casein. It has been proposed by Drs. Rudisch and Jacobi of this city to coagulate the casein, or at least a part of it, by hydrochloric acid before the milk is used. A half teaspoonful of the dilute officinal acid is added to one pint of cold water, and this is thoroughly mixed with two pints of cold milk, and the mixture is then boiled ten or fifteen minutes. This has been employed for only one infant under my observation, in one of the institutions. It had vomited the cow's milk previously given, and it vomited this as well. I design, however, to give the acidulated milk a more extended trial in the approaching hot season.

Another way of getting rid of a considerable part of the casein, which I have for many years employed, is to allow the milk, as soon as received, to stand for two or three hours, when the casein, from its greater specific gravity, has a tendency to fall, and the cream to rise. The upper portion can then be removed for use. If, as I think is ordinarily the case, this gives too much butter, the superficial layer of cream can be separated and rejected.

Still, there are many infants during the summer months, with whom cow's milk prepared in the usual way does not agree, and will not be likely to agree, however prepared, and condensed milk is found to do no better. For such, a thin gruel made from barley, rice, or wheat flour (the last having by preference been boiled in a dry state, several hours in a bag, and then grated) should be mixed with the milk in equal quantity, or the gruel may be in excess. By such aids we do the best we can to assist the feeble digestive function of the infant, but nothing which we can prepare will take the place of human milk for those under the age of twelve months. Of the various kinds of infants' food found in the shops, Ridge's food, prepared with milk, and Nestle's lacteous farina, prepared with water, have been favourably received, and many infants do well upon them except in the hottest weather. The medical profession will always regard with kindly feelings, the earnest endeavour of the renowned chemist, Baron Liebig, in the last years of his life to prepare a substitute for human milk, so important did he consider the subject of infant diet. Physiology at that time taught that young infants could digest only a very small quantity of starch, since in the first months of life the amount of salivary secretion by which starch is converted into glucose, a necessary change in digestion, is inconsiderable. But now it is ascertained that there is an epithelial ferment, which effects this change as well as the saliva. As Prof. Flint, Jr., says " . . . the intestinal juice of itself is capable of effecting the transformation of starch into sugar to a considerable extent," and an epithelial ferment in the buccal cavity appears to act in the same way (Richet). Therefore it seems that the youngest infant can digest a moderate amount of starch, though farinaceous substances are not to be depended on as a chief article of diet for any infant under the age of four or five months.

But the theory that starchy food could not be digested, or is digested slowly and insufficiently by such infants led Liebig to the preparation of his food in which starch is converted into glucose by the action of malt. Now I have used quite extensively the three preparations of Liebig's food contained in the shops, namely Hawley's, Horlich's and Mellin's, and although they do well, answering the purpose for which they were designed, in the spring, autumnal, and winter months, I have discarded their use in

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the summer season. If employed, except in small quantity, they certainly produce a laxative effect, from the large quantity of grape sugar which they contain, during those months when there is special liability to diarrhœal attacks. With these preliminary remarks, I wish to speak more particularly of the medicinal treatment of the summer complaint.

While it is very important that this disease should receive early treatment, unfortunately many cases are allowed to run on for days or even weeks before the physician is called. This neglect I find to be due in many instances to the belief common in the community, that a relaxed state of the bowels renders dentition less dangerous and is a relief to it, so that the infant may have half a dozen alvine discharges each day, and the parents believe that they are salutary, till finally they are alarmed by the evident loss of flesh and strength.

As in many other maladies, the medicinal treatment has materially changed within the last few years. Calomel, formerly administered in small doses in the belief that the function of the liver needed rectifying,—this belief arising from the fact that the stools are green in many cases—has been discarded. The green colour is now known to be produced in the intestines at a considerable distance below the point where the bile enters it, and to be the result apparently of the admixture of the intestinal secretions with the fecal matter, just as the stools sometimes have the normal colour when evacuated and become green from the action of the urine. The old dread of administering opiates to infants, promoted in this country by the perusal of Beck's "Infant Therapeutics," has ceased, in consequence of accumulated observations, showing their good effects, and the little risk which attends their judicious employment. The vegetable astringents, such as kino, catechu, and tannin, are now little used; another agent which is more readily administered, less likely to cause nausea and is more effectual, taking their place.

Occasionally it is proper to commence treatment by the administration of a gentle purgative, as a single dose of castor oil, or a mixture of syrup of rhubarb and castor oil, when there is reason to think that the diarrhœa has been excited or aggravated by some irritating substance which the infant has swallowed, and which should be expelled before measures to restrain the stools are employed; but ordinarily no such preliminary treatment is required, as the diarrhœa has continued so long when the physician is called that any fruits or other substances injudiciously given must already have been expelled, or the history of the case shows that no such substance has been taken.

Our main reliance must be on opium and bismuth subnitrate, for the purpose of checking the stools, and arresting the catarrh, and, as fermentative changes in the milk usually cause an excess of acids in the intestines, on some alkali, as the preparations of chalk. Opium is as useful in checking the intestinal catarrh of infants as it is in that of adults, but I seldom give it or other medicine in the form of powder, experience having taught me that powders are apt to be partly wasted.

For infants under the age of five months opium may be safely and conveniently administered in paregoric, in doses of three drops to an infant of one month, five drops to one of three months, and eight drops to one of five months. For an infant of six months the deodorized tincture of opium should be given in half-drop doses, and for one of twelve months in drop doses. The interval between doses should be about three hours. Opium should never be prescribed in those advanced or grave cases in which there is marked drowsiness, or rolling of the head due to incipient

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spurious hydrocephalus. Refraining from its use for such patients, and giving it in the doses and with the interval stated above, I have almost never had occasion to regret its employment, though prescribing it several times each day during the hot weather, in private and asylum practice. Drops are of very variable size when falling from the mouth of a bottle, and the dropper should always be employed, so that the drop may be as nearly as possible half a minim. The metric system insures more exactness, but we are not yet ready for it in this country. In certain severe cases the opiate may be given for a time every two hours.

The bismuth subnitrate is applicable to all cases, possessing no disadvantages, and producing no ill effects to limit its use. It may be given safely and with advantage in all stages of the malady as long as there is vomiting or diarrhœa. It is an efficient anti-emetic and antiseptic. It seems to act mainly locally, restraining the stools, increasing their consistence, and producing a soothing and curative effect upon the inflamed surface. It probably retards fermentative changes. It becomes a bismuth sulphide as dark as charcoal in the stomach, as I have observed at autopsies, and if taken in large doses, as it should be, it renders the stools dark. It sometimes taints the breath like that from onions or garlic, but I am informed that this is probably due to some impurity. It has long been in use in practice, but in insufficient and inadequate doses, for infants, until within recent years. An infant of one year should take it in doses of ten or twelve grains, and one of six months in six or eight grains.

Although we do not wish to produce alkalinity within the stomach, as the pepsin in its normal state is acid, and necessarily so for healthy digestion, yet in the "summer complaint" there is an undue development of acids, probably mainly the lactic. Therefore alkalies, as lime-water and the preparations of chalk, have been long used in this disease, and with apparent benefit, especially in the more acute cases. Alcohol, in moderate quantity, aids digestion, and is a heart stimulant. It is quickly eliminated from the system of the infant, and should be given at intervals of one to two hours to those who require it. It is given best in the form of Bourbon whiskey, brandy, or sherry, port, or Madeira wine. It is urgently demanded when, from failing heart action, hypostatic congestion of the lungs or brain is occurring or impending. In spurious hydrocephalus, which complicates many severe and protracted cases, its timely use aids materially in averting the danger. Many years ago Dr. Gooch, of London, was in the habit of employing in such cases of failing heart action the aromatic spirits of ammonia, and in five-drop doses sufficiently diluted in water it is a good stimulant and antacid.

Mild cases do not require special treatment designed to reduce temperature, as it is but moderately elevated. If the heat of head be moderately increased, a cloth wrung out of cold water should be constantly applied to it, and especially should the nurse be forbidden to cover the head except in the lightest and coolest manner, either in the house or out-door. In those severe cases known as choleriform diarrhœa, or cholera infantum, more energetic anti-pyretic local treatment is required. This form of intestinal catarrh, which usually occurs quite abruptly, having been preceded either by a state of health, or a mild diarrhœa, and is characterized by frequent watery stools and rapid loss of flesh and strength, is attended by a temperature unusually high, namely from 104° to 106°, or even higher. Such great elevation of temperature involves danger, and the prompt use of measures designed to reduce it constitutes an important part of the treatment. A bladder containing ice may be applied to the

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scalp, separated from it by one or two thicknesses of muslin, and the excessive heat of the hands and arms may be reduced by frequent sponging with cool water, and clysters of iced starch-water or mucilage are proper.

To these general observations in reference to the selection and use of therapeutic agents, it may be useful to the young practitioner to add certain formulæ, which, or the equivalents of which, experience has shown to be useful. To control the diarrhœa the following should be prescribed for an infant of one year: ℞. Tinct. opii deodorat. gtt. xvj; Bismuth. subnitrat. ʒij; Syr. simplic. ʒss; Mistur. cretæ, ʒiss. Misce. Shake bottle and give one teaspoonful every 3 hours. An infant of six months can take half the dose. A powder of bismuth, with the compound powder of chalk and opium, or with Dover's powder, has a similar effect.

Vomiting is often a very troublesome symptom, but the bismuth in the above prescription not unfrequently checks it. Its cause is probably not always the same. It is sometimes relieved by lime-water and brandy in milk when due to an excess of acid in the stomach, but the following prescription has given me more satisfaction than any other: ℞. Vini ipecacuanhæ, gtt. ij; Bismuth. subnitrat. ʒij; Syr. zingiberis, Aq. menth. peperitæ, āā ʒj. Misce. Shake bottle and give one teaspoonful whenever there is nausea.

Whenever there are tenesmus or streaks of blood in the stools, and in other cases which are exceptionally obstinate, the following will be found useful as a clyster: ℞. Argent. nitratis, gr. j; Bismuth. subnitratis, ʒss; Mucil. acaciæ, Aquæ, āā ʒij. Misce. The whole of it or a part may be given through a glass or gutta-percha syringe, and retained for half an hour or one hour by a compress. Towards the close of the hot weather and in the fall months, we are often asked to examine and treat protracted cases, that have been gradually losing flesh and strength since the diarrhœa began several weeks previously. The febrile movement is usually moderate, the appetite poor, the stools are not healthy looking, and probably less frequent than at first, though still too frequent. For such cases the following should be prescribed, which is both tonic and astringent: Liq. ferri nitratis, gtt. xxvij; Tinc. colombæ, ʒiij; Syr. simplic. ʒiij. Misce. Give a teaspoonful every two or three hours to an infant of one year. The beef wine and iron of the shops, of late extensively employed in New York as a general tonic, also has a good effect, for the iron which it contains is mildly constipating. The dose of it is also one teaspoonful for an infant of one year.

Quinia has not seemed to me to act well in diarrhœal affections of infancy, apparently increasing the number of stools. It should never be used in acute cases. If ever admissible, it is in the chronic and wasted cases as a tonic, and not for its anti-pyretic effect.

The tincture of digitalis as a heart tonic, in cases of impending or established spurious hydrocephalus or hypostatic pneumonia, is a good adjuvant. It should be given in one-drop doses every third hour, while more active stimulation by the carbonate or aromatic spirits of ammonia is employed. Digitalis will also probably be found useful in any case attended by weak and rapid pulse, even when there are no symptoms of the complications alluded to.

I have said nothing in reference to the use of pepsin and lactopeptine, for I have never been able to satisfy myself to what extent, or whether they materially assisted the digestive function in this disease. Experiments show that the quantity of food which either one in ordinary medicinal quantity digests is very small.

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Hospital Notes.

Ascites Successfully Treated by Tapping with Southey's Fine Trocar.

Henry S——, aged about thirty years, was admitted into the West London Hospital, under the care of Dr. THOROWGOOD, on November 17, 1879. The patient had been in the army, and while in the West Indies was laid up with an attack of "break-bone fever." He stated that he had never drunk much, his usual beverage in the West Indies being rum, and this on returning to England he exchanged for gin. He got on pretty well till 1876, when he was invalided from the army at Aldershot on account of bronchitis and heart disease. Gradually he noticed some swelling of his right foot, and then he found his abdomen larger than usual. During September, 1879, he was under the care of Dr. Fish as out-patient at the West London Hospital with well-marked ascites, and on the 17th of November he was sent into the hospital.

On admission his abdomen was distended and very tender, the circumferential measurement at umbilicus was thirty-seven inches, a few enlarged veins were seen on the surface, and the left lobe of the liver was tender and swollen. He had a mitral regurgitant murmur, and subcrepitant râles were audible at the lung bases. He had never vomited blood, or passed any by the bowels; had complained of cough, burning acid risings, and a good deal of soreness and pain at the epigastrium.

On Nov. 21, pulse 84, urine four pints, clear, free from albumen. Ordered five grains of compound ipecacuanha powder and three grains of mercury-and-chalk powder every night.

The remedies not making any reduction in his ascites, on Dec. 2, Mr. Blamey placed him on his right side and introduced one of Dr. Southey's fine trocars[1] in the mesial line, two inches below the umbilicus. The instrument was retained for five hours, during which time eight quarts of clear, greenish-looking fluid drained away. In the evening the temperature was 100°, and the man complained of much pain over the abdomen. Pulse rapid and irregular. To continue the powders as before.

The patient gradually improved, and on Jan. 8, 1880, was allowed to leave the hospital, feeling himself quite well. The abdominal tenderness had subsided; the belly was flat and resonant at the lowest part of each flank, and now measured 29.5 inches at umbilicus. The tongue was clean; appetite good, and liver dulness normal. For a week he had taken nitro-hydrochloric acid, with taraxacum and infusion of gentian.

The point of interest in this case seemed to be the value of gradual evacuation of the ascitic fluid. The marked abdominal tenderness rendered it advisable to give small doses of Dover's powder before the operation to keep the intestines quiet. The valvular disease of the heart was another reason for taking away the fluid very slowly.

The increased temperature after the operation, the pain and tenderness complained of by the patient for several days, and the quick and irregular pulse, all showed that the precautions were not likely to have been taken needlessly. The fine trocar and tube had previously proved beneficial in the case of a man in the hospital with enormously swelled legs, on whom Mr. Blamey operated, and the case of ascites seemed quite a fitting one to treat on the same principle. Dr. Southey had very kindly explained every detail in the management of the trocar and tube, and the result was as satisfactory as could be desired.—*Lancet*, March 6, 1880.

[1] See American Journal of the Med. Sciences, July, 1877, p. 254.

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MONTHLY ABSTRACT.

Anatomy and Physiology.

Anomalies of the Twelfth Rib, and their Bearing on Nephrotomy.

Dr. M. Holl reports in Langenbeck's *Archiv für Chirurgie*, Band xxv., Heft 1, an interesting case in which nephrotomy was attended with disastrous results, in consequence of an abnormal condition of the twelfth rib, which had been overlooked in the early stage of the operation. The patient, who was under the care of Professor von Dumreicher, was a man, aged 33, who had suffered for many years from calculous disease of the left kidney, resulting in pyonephrosis, perinephritic suppuration, and, finally, cystic disorganization of the organ. In consequence of the severity of the symptoms at the ultimate stage of the disease, and as the right kidney was believed to be healthy, it was decided to have recourse to nephrotomy. The operation was undertaken on August 6, 1877, and the usual vertical incision made in the left lumbar region, commencing about two inches below what was supposed to be the twelfth rib. The diseased kidney was found to be inclosed in a thick covering of rough cicatricial tissue, and almost the whole of the organ had been converted into a thick-walled sac containing a purulent fluid. In consequence of some difficulty in enucleating the superior portion of the kidney, the incision was extended upwards. Whilst the dense cicatricial tissue was being divided near the lower margin of the rib, a whizzing sound was heard, and the patient immediately became cyanosed. It was evident that the left pleural cavity had been opened, and that pneumothorax had resulted. On examination of the deep portions of the lumbar incision, it was found that the last rib felt before the commencement of the operation, and used as a guide, was the eleventh and not the twelfth, which could now be felt very small and in a rudimentary state. A further attempt was made to remove the kidney, but, in consequence of collapse of the patient through dyspnœa and much hemorrhage, the operation was not completed. The patient died on the following day. At the necropsy, an opening through which the little finger could be passed was found at the lower part of the pleural cavity. The left lung was collapsed, and surrounded by a considerable quantity of sero-purulent exudation. The twelfth rib was small and short (3½ centimetres in length), and its outer extremity did not extend to the inner margin of the lumbar incision. The upper end of this incision had exposed the lower margin of the eleventh rib. Professor Simon, first of modern surgeons to advocate and to perform nephrotomy, pointed out that the twelfth rib was one of the most important guides in this operation, but failed to mention the fact that this bone not unfrequently exists in a rudimentary condition or is altogether absent. As the twelfth rib is intimately connected with the pleura, and is the only safeguard against injury to this membrane in the course of the operation, it is evident that an abnormal condition of this bone may seriously influence nephrotomy, and not only render the operation very difficult, but also cause the death of the patient. Dr. Holl, struck with the importance of the part played by the twelfth rib in the operation of removing the kidney, has made a series of investigations on sixty human skeletons, with the object of determining the frequency and variety of abnormalities of this bone, and also the relations of the diaphragm and pleura in cases where abnormality of the rib

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exists. The twelfth rib he found almost always shorter than the eleventh, the average lengths being three inches and a quarter and four inches and a third. In forty-four instances, the twelfth had not more than half the length of the eleventh rib. In twenty bodies out of thirty-six the twelfth rib could not be felt on superficial examination and before dissection, the eleventh rib being apparently the last. In the total number of sixty skeletons, the twelfth rib was altogether absent six times. In abnormal conditions of the twelfth rib, the eleventh rib usually remains normal, save that its free extremity is somewhat depressed, so that the space between the tenth and eleventh ribs is widened. Shortening of the twelfth rib may occur on both sides or on one side only: when unilateral, it occurs more frequently on the right side; it occurs more frequently in males than in females. No constant coexistence was found of any abnormality of the vertebræ, as to arrangement or number, with absence or abnormal size of the twelfth rib. If this rib be wanting, the corresponding vertebra has no costal articular facet, and presents a connecting link between the dorsal and lumbar vertebræ. In cases of abnormality of the last rib, the posterior attachments of the diaphragm usually occupy their normal position. The pleura, therefore, being no longer protected by the twelfth rib, and passing down below the eleventh rib, is very liable to be wounded during nephrotomy, unless the abnormal condition have been previously recognized and care taken to avoid such an accident. The surgeon, before commencing the operation, should count the ribs, and, if he find the twelfth very short or absent, ought not to carry his knife over a line drawn horizontally outwards from the lower margin of the spinous process of the twelfth dorsal vertebra. The twelfth rib, Dr. Holl states, when short, has no value as a guide in nephrotomy, and ought not to be regarded as such, save when its free extremity extends for some distance beyond the outer margin of the sacro-lumbalis muscle. Dr. Holl agrees in the opinion that was held by Professor Simon as to the danger of excising the twelfth rib in nephrotomy, and disapproves of such proceeding on account of the great risk involved of opening the pleural cavity. —*London Med. Record*, April 15, 1880.

Materia Medica and Therapeutics.

On Antiseptic Dressings.

The following extract, from Professor BARDELEBEN'S *Text-Book of Surgery*, is published in the February number of the *Medicinisch-Chirurgische Rundschau*. The most convenient and efficacious of antiseptic dressings are those containing carbolic acid. Thymol is a less convenient agent, merely on account of the difficulty in obtaining a sufficiently strong solution. Both agents are very volatile. Dressings, therefore, in which either is mixed with lard or resin, soon become useless. Such dressings should either be used when quite fresh, or be closely packed in some air-tight receptacle. Moist dressings of thymol and carbolic acid have the advantage that they may be readily provided and without technical assistance, but they must be renewed from time to time. If jute be used at the same time, the moistening of the dressings with carbolic acid or thymol need not be repeated more frequently than once in twelve hours. Salicylic acid is less soluble and also less potent as an antiseptic than the above-mentioned agents; but, on the other hand, it is not at all volatile, and dressings impregnated with it preserve their efficacy for a long time. The small crystals,

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however, may be readily detached from dry dressings, and thus the antiseptic working of the application is impaired and a dust diffused around the patient, which is very irritating to the mucous membrane of the air-passages and provocative of coughing and sneezing. This acid has this important advantage over carbolic acid and thymol, that it is much less irritating in its action on the skin and on open surfaces. Not the hand of the surgeon only, but also the skin of the patient, must suffer from the local action of carbolic acid. The most irritating of dressings is Lister's gauze, on account not merely of its carbolic acid, but also of the paraffin that it contains in large amount. Not only pain and redness but also a pustular eruption and superficial gangrene of the skin, may occur during the use of Lister's dressings, especially if the bandaging be too firmly applied. Carbolic acid, as C. Hueter remarks, acts not only as an irritating but also as a paralyzing agent, particularly on the small vessels. Hence the active bleeding from all fresh wounds to which a solution of carbolic acid is applied in a stream or spray. In solutions of more than three per cent., carbolic acid acts as a caustic. Whether the burning pains caused by the prolonged application to the skin of carbolic acid, even in weak solutions, be due to the direct action of this agent on the nerves or to dilatation of the small vessels and consequent stasis of blood, cannot be made out. Thymol has no advantage over carbolic acid in this respect, for, even in solutions of one per thousand, it excites severe burning pains when applied to the skin. It does not, however, cause any paralysis of the bloodvessels. With the use of carbolic acid, the burning pains give way to anæsthesia; with the use of thymol, this change does not occur. Boracic acid dressings, which may be used whenever carbolic acid or thymol cannot be conveniently or safely applied, have this advantage, that they may be kept for a long time without being deprived of their efficacy, boracic acid being non-volatile. Chloride of zinc dressings should not be applied directly to a wounded surface, as this salt acts as a caustic. For the same reason, any wound-secretion absorbed by chloride of zinc dressing should not be allowed to come into contact again with the surface of the wound, or to accumulate in its vicinity. If these precautions be taken, chloride of zinc will be found, in combination with jute, a very useful antiseptic dressing. Of much greater importance than the local irritation that may be produced through the application of antiseptic dressings, is the question of the danger that may arise through the absorption of any of such agents. The only agent that need be considered in this respect is carbolic acid, for this alone of the above-mentioned antiseptics can be absorbed by the organism from the dressings in such quantities as to excite serious disturbances. Carbolic acid is decidedly a poison. That it is very frequently absorbed both from moist and from dry dressings, may be proved by the frequent occurrence of a characteristic and easily recognized change in the urine. The colour of this exuded fluid is at first olive-green, subsequently, after some exposure to the air, dark brown, and finally black; the sulphates disappear and are converted into sulpho-carbolates. But notwithstanding this alarming symptom, the general health of the patient, if not otherwise affected, usually remains good. In some instances, however, the appetite fails, the patient feels dull and is apathetic, and there is nausea and occasional vomiting. The intensity of these disturbances stands in no close relation to the intensity of the urinary staining; with the urine very dark in colour, the patient may still feel quite well. It is not imperatively necessary to discontinue the use of carbolic acid dressings when the urine becomes stained; but, so soon as the above-mentioned general symptoms are manifested, some other antiseptic dressing should be substituted.—*London Med. Record*, April 15, 1880

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Oxalate of Cerium as a Cough Remedy.

At a recent meeting of the New York Therapeutical Society (*Med. Record*, May 1, 1880), Dr. ANDREW H. SMITH presented the following as the conclusions of the Committee on Restoratives as to the value of oxalate of cerium as a cough remedy:—

1. Oxalate of cerium could be safely administered in doses of ten grains, three times a day, for many days in succession.
2. The only unpleasant symptom, when so used, was slight dryness of the mouth that appeared after several days.
3. It was probably the most efficient when administered dry upon the tongue.
4. Its effects were not produced until two or three days after its use was begun, and lasted for two or three days after the remedy was discontinued.
5. It was most efficacious in the treatment of chronic cough, and the initial dose should be five grains.
6. In the majority of cases it had not proved an efficient cough medicine for any considerable length of time, but could be regarded as a valuable agent to be employed in alternation with other remedies.
7. It did not disturb the stomach; on the contrary, it relieved nausea and improved digestion.
8. Different preparations upon the market were not equal in value; and when success was not obtained by one, another should be substituted.

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Effects of Intravenous Injection of Chloral, Chloroform, and Ether upon the Circulation.

M. ARLOING (*Archives Gén. de Méd.*, Oct. 1879) recently read a paper before the Académie des Sciences of Paris as to the comparative effects upon the circulation of intravenous injections of chloral, chloroform, and ether. The author injected into the veins furthest removed from the heart solutions of chloral (.5 per cent.), and solutions of chloroform and ether (.2 per cent.). He then found that the heart beat was greatly strengthened by the chloroform, and that chloral and ether caused a fall in the pressure of the right ventricle, whilst chloroform increased this pressure. Again, chloroform and ether increased the force of the systole, whilst chloral diminished it. From these observations the conclusion was drawn that the pulmonary circulation is rendered more active by chloral and ether, whilst it is retarded by chloroform. It was also noticed that the following changes occurred in the peripheral circulation: (1) The flow of blood in the capillaries, which was slightly slowed at the commencement of chloralization and etherization, was much accelerated towards the end of the anæsthesia. (2) The flow, after undergoing a temporary increase in rate, diminished at the beginning of the chloroform narcosis; it afterwards, however, increased gradually, though it did not regain its normal rapidity. It was also found that chloroform produced anæmia of the cerebral vessels, whilst ether and chloral caused hyperæmia of the brain.—*Practitioner*, May, 1880.

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Cutaneous Eruptions caused by Hydrate of Chloral.

Dr. MARTINET (*Thèse de Paris*, 1879) has arrived at the following conclusions, which are interesting in so far as they bear upon the question of eruptions caused by remedies. (1) The ingestion of chloral produces an exanthematous eruption in a certain number of individuals, which may be called chloralic erythema. In some cases too urticaria and purpura have been observed after its

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administration. (2) The erythema appears on the face, neck, abdomen, over large joints, upon the extreme surfaces, and upon the back of the hands and feet, etc. It occurs after eating, and after drinking alcoholic beverages. There is frequently no fever, and the duration of the eruption is very short. (3) The eruption is often accompanied by dyspnœa and intense palpitation. (4) The phenomena are only observed in persons who are predisposed to it. (5) It appears to be due to a paralysis of the vaso-motor centres in the same way as in the accompanying dyspnœa and palpitations. Eruptions due to chloral have been observed by Schüle in Germany, and by Creighton Brown and Winter Fisher in this country. French writers scarcely allude to them, with the exception M. Mayor, who has brought forward an interesting communication upon the subject. In nearly all the cases published by M. Mayor and M. Martinet it was found that the eruption reappeared on renewing the dose of chloral. The amount of chloral required to produce the eruption does not appear to be of any great importance from the point of view here adopted. The explanation of its causes as given by M. Martinet, although probable, yet remains to be proved.—*Practitioner*, March, 1880.

Medicine.

The Neurotic Theory of Gout.

In the number of *Brain* for April, 1880, Dr. DYCE DUCKWORTH, Assistant Physician to St. Bartholomew's Hospital, enters a plea for the neurotic theory of gout which is based upon the following points :—

1. I contend that the diseased conditions which are recognized as of unequivocal gouty nature, are primarily dependent upon a functional disorder of a definite tract of the nervous system, and that, thus, gout is a primary neurosis.

2. That there is much in the nature of the malady itself, and much evidence forthcoming by way of analogy, to warrant the conjecture that the portion of the nervous system specially involved is situate in the part of the medulla oblongata, where, possibly, may be placed a trophic centre for the joints.

3. That the gouty neurosis may, like others, be acquired, intensified, and transmitted, also that it may be modified variously, and commingled with other neuroses; that it may suffer metamorphic transformations, or be altogether repressed.

4. That this diathetic neurosis imposes its type upon the affected individual in definite nutritional modes, affecting the assimilating and excreting powers, exhibiting marked peculiarities in nervous impressibility, and determining, in more or less degree, a physiognomy of the gouty.

5. That a large part of the phenomena known as gouty, are due to perverted relations of uric acid and sodium salts in the economy, resulting from the morbid peculiarities mentioned under the last head. Thus, there is excess of urate of soda in the blood before, and during, gouty explosive manifestation, and there is determination (by nervous influence, in all probability) either of this salt to the affected part (Garrod),[1] or there is a too free formation of it at these inflammatory points, whence it is deposited locally, and also set free into the circulation (Ord).

The renal excretory power for uric acid appears to be temporarily inhibited as

[1] Vide "Lecture on Pathology and Therapeutics." (London, 1867 : p. 137.) H. Bence Jones, M.D., F.R.S.

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part of the process of gouty paroxysm. This measure of renal inadequacy would appear to prevail in varying degree as a part of the specific neurosal disorder. In chronic gout, when structural disease has occurred, either tubal, with deposition of urate of soda, or interstitial, with shrinking of the organs, the renal inadequacy may admit of more mechanical explanation.

6. That in primary, or inherited, gout, the toxæmia is dependent on the gouty neurosis; is the outcome, in whatever degree, of it, and is therefore a secondary manifestation.

7. That, in what I term Secondary, or acquired, gout, the toxæmia is directly induced by such habits as overload the digestive and excretory organs, and constantly prevent complete secondary disposal of nutritional elements of food; that if, together with such toxæmia, distinctly depressing and exhausting agencies, affecting the nervous system, come into operation, the special neurotic manifestations of the gouty diathesis will occur, and be impressed more or less deeply upon the individual and his offspring.

8. That this theory of gout, better than any other, correlates all the known factors concerned in the production of the varied symptoms of the malady; and while it displaces its humoral pathology from the pre-eminence it has so long occupied, it takes full cognizance of it, and seeks to place it in a clearer relation to the phenomona of the disease.

9. That if it be desirable to refer various maladies to their distinct place in pathology, without reference merely to their chemistry, histology, or neurology, the affection known as gout may perhaps most correctly be relegated, along with some others, to a class of diseases which may be termed neuro-humoral.

10. An argument is adduced from the *juvantia* afforded by colchicum, in favour of the theory which has been set forth.

Persistent Priapism, not connected with Lesion of the Central Nervous System.

Dr. GEORGE L. PEABODY, Medical Registrar and Pathologist to the New York Hospital, reports (*New York Med. Journal*, May, 1880) an interesting case of long-continued priapism not dependent upon injury to the spinal cord, and reviews the other cases of similar character which have been from time to time recorded in medical literature. He finds the following to be the most important facts with regard to this form of priapism:—

1. It is to be regarded as an occasional symptom of leucocythæmia.

2. It may come on without any assignable cause in a patient apparently in perfect health, though it usually attacks anæmic persons. It sometimes follows sexual intercourse, though this is to be regarded as exceptional.

3. It may last from a few days to two months, and has lasted a longer time, though rarely.

4. It is extremely painful, causing insomnia, nervous exhaustion, and general physical prostration.

5. It has occasionally yielded to profuse blood-letting. This procedure is not to be recommended, except in robust subjects. Free incisions into the corpora cavernosa have occasionally caused its subsidence, but they are to be regarded as unsafe on account of the prolonged suppuration which has followed them. Medical treatment has proved entirely useless as far as the cure of the condition is concerned. Local applications containing camphor and other soothing ingredients have diminished the pain.

6. The prognosis is not good, both on account of the cachexia with which it is commonly accompanied, and on account of the fact that it is frequently followed by impotence.

7. The corpus spongiosum is usually not affected.

A valuable bibliography is appended.

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Diabetes and Sepsis.

In this paper (*Deutsche Medicin. Wochenschrift*, Jan. 3 and 10, 1880), ROSER calls special attention to the occurrence of gangrenous or ulcerative processes in patients suffering from diabetes. As a rule, in cases of gangrene occurring without any definite cause, the tendency is to attribute it to some septic agency. Roser, however, points out that, in these cases, diabetes is often present, and, where this is the case, he states that a cure may be obtained by attention to diet, etc., without any special antiseptic measures. In support of this view, he cites a case from his own practice of progressive gangrenous inflammation of the foot cured by antidiabetic diet; other cases occurring in his own practice, in that of Kŭby, Marchal, and others. Reference is also made to cases of sudden death, which often occur in diabetic cases, and which may happen after even slight operations. He confirms Marchal's statement that, "in cases of obstinate furuncular eruption of carbuncle, diffuse phlegmonous inflammation, gangrene, etc., the urine should always be examined for sugar."—*London Med. Record*, April 15, 1880.

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An Undescribed Eye-Symptom in Glycosuria.

ALCON calls attention (*El Siglo Medico*, Jan. 1880, No. 1361) to a case of diabetes in which he observed a symptom hitherto undescribed, namely, a diminution in the refractive power of the eye. The patient was a woman, aged 61, of healthy antecedents, in whom symptoms of glycosuria became developed after an injury. Simultaneously, sight became impaired, and glasses that had hitherto sufficed for reading were now found to be too weak. There was a manifest hypermetropia of 1.25 D, and vision was reduced to one-half. At this period, the amount of sugar passed daily amounted to 229.04 grammes. At successive visits the amount of sugar was found to be steadily decreasing, and, *pari passu*, the hypermetropia also. Finally, five months after the first examination, it was found that the eyes were once more emmetropic, while every particle of sugar had disappeared from the urine. The author explains the symptoms by an alteration in the index of refraction of the vitreous humour, due to a change in its chemical composition. The vitreous body offers a concave surface to incident rays, and, consequently, its refraction is the exact reverse of that of the cornea and crystalline; therefore, any increase in its refractive power will result in a diminution of the refractive force of the eye as a whole.—*London Med. Record*, April 15, 1880.

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On Some Appearances, probably of Parasites, in the Voluntary Muscles of Enteric Fever.

At a late meeting of the Pathological Society of London (*British Med. Journal*, April 24, 1880), Dr. Buchanan read, on behalf of Mr. W. H. POWER, a paper on this subject. Mr. Power's attention was first called to it by the discovery of hæmatoid worms closely resembling trichinæ in the body of a boy who had died on board the training-ship *Cornwall*, of a disease supposed to be typhoid fever, that had affected many of the boys in the ship. Investigation rendered it nearly certain that in all the cases the disease had been parasitic in its nature, rather than enteric. The parasites resembled trichinæ in size, but they were not encysted, and they were more transparent than trichinæ generally were. This might be due to the rapid course of the disease in this case, and to the fact that the examination was not made until two months after death. In order to follow up the matter, Mr. Power made examinations of the voluntary muscles in two cases of undoubted typhoid fever. The first case was a young man, a patient in

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St. Thomas's Hospital under the care of Dr. Cory, admitted for typhoid fever, who had died of perforation on the twenty-third day of the disease, the bowel being found *post mortem* to present well-marked typhoid ulceration. In the pectoral muscle were bodies resembling parasitic worms. They were very numerous, and when first seen were apparently living. In length and in breadth they were about one-fourth the size of the trichina spiralis, and there was an interior canal which appeared to be covered at one part by some internal tissue or organ. Similar bodies were found in the muscles of a boy who died in Greenwich Hospital from peritonitis, at an early stage of unquestionable typhoid fever. In neither case were all the muscles affected, the diaphragm being in both free from the worm-like bodies. Further examination led to the discovery of smaller bodies, possibly having some relation to the larger bodies, but much more numerous than the latter. They were, however, not easily seen, a very slight interference with the slide being sufficient to remove them from view. The larger parasite-like bodies were more numerous in portions of the muscle which had undergone decomposition; but this was not true of the smaller bodies. It was doubtful whether the increase in the number of the larger bodies was apparent only, or whether it depended upon actual growth or multiplication. The author of the papers did not profess to do more than record the observed facts, with a view to encouraging investigations on the part of other pathologists.

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Syphilis as a Cause of Tabes Dorsalis.

Erb has previously drawn attention to the frequency with which a history of syphilis may be obtained in cases of tabes (*Deutsches Archiv für Klin. Med.*, Band xxiv). He now reports (*Irrenfreund*, Jan. 1880), from a series of fresh observations, that out of 33 typical cases, he only found 4 without previous syphilitic infection. Of the other 29, 24 had had secondary symptoms, and the remaining 5 a primary sore only. In order to show that this history is special to tabes, the author carefully examined 85 male patients over 25 years of age, suffering from various other nervous disorders, for previous syphilis or chancre. Of these, 71 had never had the disorder, leaving only 14 who had. The proportions are these: of the 33 cases of tabes, 88 per cent., and, of the 85 cases of other nervous diseases, 14 per cent. only had had syphilis. The time at which the tabes supervened is thus given: within 4 years of infection, 5 cases; from 4 to 10 years, 18; from 11 to 12 years, 3; many years later, 3. In most of the cases it was observed that the syphilitic symptoms had not been of a severe nature. The author states that symptoms of syphilitic disease of the brain should be carefully sought for in all cases of tabes. He regards the question whether syphilis is merely a predisposing, or a direct cause, as still open, but inclines to the latter view, and considers that two classes of cases should be recognized, the specific and the non-specific. In a number of the syphilitic cases, active antisyphilitic treatment had been followed by improvement or arrest of the disease; prognosis must, however, be most guarded, for syphilitic scleroses are always highly intractable, and there is probably an actual lesion of nerve-tissue which is known to have little or no power of repair. In a discussion which followed the reading of the author's paper, Dr. Mayer stated that, among 29 cases of tabes, he had only found three without any history of syphilis.—*London Med. Record*, April 15, 1880.

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Epilepsy in Syphilitic Patients.

Dr. C. Pellizzari describes three cases in *Lo Sperimentale* for 1879 (abstract in *Wiener Med. Wochenschrift*, No. 13, 1880). In the first case, the subject

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was a man aged 38, who sixteen years previously had had cutaneous syphilis, of which the scars were still present. The left half of the face and the left upper limb had been the seat of convulsive movements for about a year, and defecation and micturition occurred involuntarily. Soon after his admission, the left leg was also observed to be affected, and later the whole body. Death was preceded by a considerable rise of temperature. At the necropsy, the cerebral lobes and the dura mater were found to be adherent, and there was a considerable development of connective tissue in the cortical substance of the brain. In the second case, the patient was eight years old, the child of a syphilitic mother. It was said to have suffered only a short time from unilateral convulsions. No direct cause could be discovered beyond thickening of the pia mater of the right paracentral lobe. The third patient, a man aged 36, had been syphilitic sixteen years and epileptic two years. At first he had only headache, afterwards stuttering and convulsions, and then aphasia. At the same time with the headache, a sore appeared on the lower lip. This healed under mercury; the treatment, however, had no effect on the convulsions, which affected the right side; and his memory became impaired while he was taking mercury. Consciousness was still unimpaired a short time before death, even when the convulsions affected both sides. Death was preceded by a rise of temperature. There was softening of the left lobe of the brain as far as the corpus striatum; the meninges in this part were much thickened and adherent.—*British Med. Journal*, April 24, 1880.

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The Treatment of Epilepsy.

Dr. W. R. GOWERS concluded his recent course of Gulstonian Lectures before the Royal College of Physicians with the following interesting remarks on the treatment of epilepsy.

The treatment of epilepsy is a subject on which numerical analysis gives little help. A large number of cases are under observation too short a time to enable the effect of remedies to be fairly estimated; and of the cases in which benefit is derived, we have no means of ascertaining how many relapse when treatment is discontinued. My notes of the result of treatment in this series of cases extend to 562 cases only. In the remainder, either the period of observation was too short for just conclusions to be drawn, or, in the press of out-patient work, the influence of remedies was not noted with sufficient precision. The effect of treatment is more likely to be recorded when it is distinct and considerable than when it is slight. Hence the following figures have no relative value. Of the 562 cases, the attacks ceased while the treatment was maintained in 241; doubtless many of these relapsed when treatment was discontinued, but in a few I have been able to ascertain that the patients remained free from fits even for years after they ceased to take medicine. In 266 cases improvement short of arrest was obtained; the fits being reduced in many to $\frac{1}{10}$, $\frac{1}{50}$, $\frac{1}{50}$, and even $\frac{1}{100}$ of their former frequency. In 55 cases little improvement was obtained by any method of treatment.

Time forbids me to enter at any length on the details of treatment, and I can do little more than mention the remedies which in this series of cases were of most distinct service. The subject of possible modes of action it is better to leave almost untouched. It may be doubted whether a rational therapeutics of epilepsy is yet possible. At any rate, up to the present time remedies used empirically have been of most service.

Although the results show that we must not only rely exclusively upon bromides in our treatment of epilepsy, they show also, as might be expected, that on these our chief trust must still be placed. Of the arrests of fits, 66 per cent.,

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and of the improvements short of arrest, 62 per cent., were due to bromides given alone. Of the three alkaline salts of bromine, that of potassium deserves, I think, as it has popularly received, the first place. I have made a careful comparison between the salt of sodium and potassium in a series of about fifty cases, substituting the one for the other. In a few cases the sodic salt appeared to do better; in the great majority it was distinctly less useful. Bromide of ammonium possesses slightly more power than bromide of potassium, but this is not greater than the larger quantity of bromine which it contains will account for.

The period after its administration at which the maximum effect of a dose of bromide is obtained varies, I believe, with the dose. The larger the dose the longer is the maximum effect deferred; the smaller the dose the sooner does it occur, and the sooner is its action over. When small doses are employed in cases in which attacks occur at regular times, they should not therefore be given more than two or three hours before the attack is expected. This is contrary to some opinions which have been expressed, but I have several times known attacks arrested when a dose was given some two or three hours before the fit was expected, which were not arrested when the same dose was given twelve hours earlier.

The effect of bromide upon fits appears to be for a time cumulative, just as is, indeed, its action in causing bromism. Attacks may continue under its administration for a time, and yet ultimately cease without any increase in the dose. On the other hand, still later, tolerance, or rather indifference, may be established, and attacks which have been for a time arrested may ultimately recur.

Drugs which increase reflex action, such as strychnia, are now believed to do so by lessening the resistance in the nerve-centres involved. Bromide diminishes reflex action, antagonizes strychnia, and it is probable that it does so by increasing the resistance in the centres. If the view above expressed be correct, that the morbid state in epilepsy is essentially an instability of the resistance in the cells, it is also probable that bromide acts by increasing the stability of this resistance.

Bromide is commonly administered in a continuous course, in such moderate doses as will just suffice to keep the fits in check. Given thus it needs to be given frequently. I have more than once observed that a daily quantity which given in two doses did not quite arrest the fits, arrested them completely when given in three doses. If, therefore, the greater convenience of infrequent doses, one or two daily, is preferred, a somewhat larger quantity needs to be given.

When bromide is thus given continuously, it has not seemed to me desirable to increase the daily dose beyond a drachm or a drachm and a half. If this does not arrest the fits, I have very rarely found that larger doses succeed so well as the combination of bromide with other drugs. But it is, I think, open to question whether this method of administration, using doses only just sufficient to arrest the fits, is the wisest in all cases. If bromide cures epilepsy, as without doubt it does sometimes, it must be by effecting a nutritive change in the nerve-cells corresponding to its action, whereby they are rendered permanently more stable. That it, or any other drug, does good in epilepsy by influencing the vascular state of the brain, appears to me without even probable proof. Even if such were its action, we are only driven back to a similar influence in increasing the stability of the cells of the vaso-motor centre. There are, I think, many grounds for the belief that the change in the nutrition of the cells may be produced more effectually by subjecting the patient *for a time* to the full influence of bromide, giving doses much larger than are needed to arrest the fits, in the hope of producing more readily a permanent nutritive change. In giving bromide thus I have preferred large doses at intervals of two or three days, gradually increasing the dose until it is as large as can be well borne, and then dimin-

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ishing it. The largest single doses which I have given in this way have been doses of one ounce. This in some patients produces slight stupor, sometimes reaching its maximum on the second day after the dose. In other cases it produces very little disturbance beyond headache. From the marked differences which patients present in their tolerance, it is not well to begin this method of treatment with a larger dose than four drachms.

The value of the various combinations of bromide with other drugs was tested, as far as possible, on a uniform plan. First, bromide was given alone for several months, and then an additional drug was added to the same dose of bromide, and the result watched for several months longer. Of the various combinations which are in common use, those with digitalis and belladonna unquestionably deserve, as they have commonly received, the first place. Digitalis is one of the oldest remedies for epilepsy. It was recommended by Parkinson two hundred years ago, and has been perhaps for a still longer time a popular remedy for this disease in certain rural districts in the west of England. I have met with no case in which, given alone, digitalis arrested the fits for more than a few months, but in several cases it effected very distinct improvement. The combination of digitalis and bromide, however, was distinctly more useful than bromide only, in no less than sixty-three cases. In more than half of these, thirty-seven cases, the attacks ceased under its use, although they had continued under bromide alone. In the cases in which cardiac disturbance was associated, the combination was almost always superior to bromide alone; but its use is not confined to these cases. Many cases of nocturnal and other forms of epilepsy yielded to the combination, although the attacks had continued under bromide, and this when there was no evidence of cardiac disease. I know of one patient with nocturnal epilepsy who, for two years, under this combination, has not had a single fit, although the attacks occurred every few weeks on bromide only.

In rare cases belladonna alone will arrest attacks. I have met with only one case in which attacks, which continued on bromide, ceased entirely when belladonna was substituted, and this was a case with hystero-epileptic symptoms. The combination of bromide and belladonna, however, was distinctly better than bromide alone in 35 cases, and in 15 of these arrest of the fits was thus obtained.

Indian hemp was first employed in epilepsy by Dr. Reynolds, and is sometimes of clear value. In one case the attacks were invariably arrested for many months by its use, recurring only when the patient ceased attendance, but twice on his resuming attendance the drug instantly arrested the attacks. When bromide was substituted for the Indian hemp, the attacks at once recurred. Combined with bromide it is also sometimes useful, and seems to exercise most influence over attacks in cases in which there is persistent headache. The same fact has seemed true of the combination with gelseminum, which is occasionally of marked service.

The use of opium in epilepsy has long been advocated by Dr. Radcliffe, and in some cases it is certainly effective. The combination of bromide and morphia I have rarely found to present special advantages. In the status epilepticus in which attacks occur with great frequency and severity, and where bromide, even in large doses, was useless, I have found small hypodermic injections of morphia of great service.

The combination of bromide with aconite and hydrocyanic acid I have also tried, and found in some cases slightly better than bromide only. The addition of iodide to bromide has been lately said to increase its effect. Occasionally this is true, and in four cases of the series the combination was distinctly better than bromide only, but in many other cases it was ineffective. Even in the cases the subjects of inherited syphilis it has not appeared of special value.

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Zinc unquestionably deserves some of the repute it has enjoyed for more than a hundred years as an anti-epileptic. Of the cases of this series in which it was employed it was distinctly useful in ten, but in only three did the attacks cease. In three other cases attacks which continued under bromide ceased under bromide and zinc, and in a fourth they ceased under zinc, digitalis, and bromide. The oxide of zinc was the form commonly employed. Its nauseating influence constitutes a serious drawback to its use, as toleration is difficult to establish, and I have rarely succeeded in giving more than twenty grains a day. Bromide of zinc has seemed of small value, and is borne badly. The addition of arsenic to bromide in no case produced any marked effect on the attacks. It was used in a large number of cases on account of the readiness with which, it was found, the bromide rash could be prevented by its use.

Bromide of camphor, highly praised by Bourneville, was tried in a considerable number of cases, but without any good results. Turpentine has been recommended by Dr. Radcliffe, and I have seen it produce very striking benefit, but only in cases of hystero-epilepsy.

The use of iron in epilepsy has been discountenanced by high authorities, on grounds which are not altogether beyond question. In rare cases it increased the frequency of attacks; in the majority of cases in which it was used it was borne without any ill result; in many the addition of iron to bromide was attended with a marked and permanent improvement, and in some cases iron alone arrested the fits. The series includes 4 cases which ceased under iron only, and 8 others in which iron alone was distinctly better than bromide, and 19 cases in which the addition of iron to bromide exercised a marked influence. In no less than 11 cases attacks which persisted on bromide, ceased on the addition of iron, and remained absent as long as the treatment was continued.

In several inveterate cases of epilepsy in which bromide had no effect, I have tried borax. In some cases it did no good, but in 12 its value was most distinct. I may mention one or two. In one, fits which had continued on bromide and on zinc ceased entirely on borax for three months, and then only recurred when the medicine was discontinued. In another case the fits continued, about one weekly, during three months' treatment on bromide and on belladonna. Borax was then substituted, the fits at once ceased, and for five months the patient had not a single fit; then he had one in each of the two following months; the dose of borax was increased, and up to the present time, eight months later, no other attack has occurred. In a third case, one or two attacks occurred once a fortnight on bromide. Borax was substituted, and for five months the patient had not a single fit. The doses given have been ten or fifteen grains twice or three times a day. It produces in some patients gastro-intestinal disturbance, and rarely, a form of dysenteric diarrhœa. By others it is well borne, and one of my patients has taken forty-five grains a day for twelve months without the slightest inconvenience, and says that no medicine has ever done him so much good. In cases in which bromide fails, borax certainly deserves a trial.

The use of cocculus indicus in epilepsy, recommended by Dujardin-Beaumetz, has lately attracted attention in consequence of the recommendation of Planat. I have tried the alkaloid picrotoxine in a few instances, but in only one case has it appeared to do good. My own experience of its use has, however, been small, and I am very much indebted to my colleague, Dr. Ramskill, for permitting me to mention some interesting results which he has obtained by the hypodermic injection of picrotoxine. His experience of its effect on the fits when given through the skin is nearly the same as my own of its employment by the mouth. In seven cases in which it was injected, in daily doses of from one to four milligrammes, no beneficial result was obtained; in most cases, indeed, the attacks

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were rather more frequent and severe. Of course, we are not justified in assuming that the effects of picrotoxine and of the cocculus indicus itself are identical. A very interesting fact has, however, been ascertained by Dr. Ramskill—viz., that picrotoxine in larger doses of from fifteen to eighteen milligrammes will almost invariably produce a fit in twenty or thirty minutes. In one patient, for instance (according to the notes of Mr. Broster, who carried out the experiments), the dose was daily increased, and when more than five milligrammes were injected, a sensation of giddiness followed, similar to that with which the attacks commenced. The same effect followed larger injections, and when the dose reached eighteen milligrammes a severe attack occurred thirty minutes later, and an attack always followed the injection of this dose. In another patient a similar progressive increase of the dose was followed by giddiness and headache, when eight milligrammes were injected. When the dose of fifteen milligrammes was reached, a severe epileptic fit followed. Next day a second dose of fifteen milligrammes did not cause a fit, but eighteen milligrammes, two days later, caused a fit in half an hour. After a week's intermission, twenty-four milligrammes were injected, and a severe fit occurred in twenty-five minutes. In a third patient a fit occurred after one injection of eight milligrammes, but ten milligrammes next day caused no fit. Fifteen milligrammes, however, were followed by a fit in thirty minutes, and a second injection of the same dose the following day caused a fit in fifteen minutes. Seventeen milligrammes next day caused a fit in thirty minutes. In a fourth patient a single dose of eighteen milligrammes caused, in ten minutes, giddiness and slight dazzling before the eyes, and in thirty minutes there occurred the usual aura of an attack—a sensation of something creeping up the right arm to the top of the head, and numbness and twitching in the right thigh, but no fit followed, although the patient was stupid and dull for a time just as after a fit.

Among other drugs which I have tried and found useless I may mention benzoate of soda and nitro-glycerine.

In hystero-epilepsy bromides, sometimes useful, fail entirely much more frequently than in simple epilepsy, and the combinations with digitalis and belladonna are also less frequently useful. Iron, especially guarded by aloes, is often of the highest value, quite apart from the existence of anæmia, and next to it valerianate of zinc, morphia, and turpentine.

High authorities have urged on different grounds that the diet of epileptics should contain little or no animal food. In a few observations which I have made by keeping a patient under unaltered medicinal treatment for alternate periods on a diet with and without animal food, I could observe no difference in the attacks, except that in one patient they were slightly more frequent in the periods when animal food was excluded, and in one patient hystero-epileptic attacks on ordinary diet became, when meat was excluded, severe epileptic fits, and again became hystero-epileptic when animal food was restored.

In pure epilepsy the only treatment needed during the attacks is such care as shall secure the patient, as far as possible, from injury. It is very different with the attacks of hystero-epilepsy, which, from their character, severity, and long duration, often furnish the attendants with a task of no small difficulty, and which can, almost always, be cut short by appropriate treatment. The patients often hurt themselves during the attacks, and some control is absolutely necessary. But, as already stated, restraint tends to increase the violence and makes the paroxysm last longer. Hence considerable judgment is often required, so to adjust control as to be efficient and not too much. I have seen these patients put within padded partitions and left alone, but I have never myself found this necessary.

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The slighter attacks can be arrested by closing the mouth and nose with a towel for some thirty seconds, after Dr. Hare's method. The profound effect on the respiratory centre, and the related higher centres, caused by the anoxæmia, seems to arrest the convulsive action. Cold water over the head is often successful if applied freely; in severe attacks a moderate quantity only excites redoubled violence, while a second gallon is often more effectual than the first. This has the disadvantage of drenching the patient's head, and often giving cold. When the mouth is open during the attacks a small quantity of water poured into it is often effectual. A much more convenient and more effectual remedy than water, however, is strong faradisation to the skin; applied almost anywhere it will commonly quickly stop the attack. It is rare that ovarian pressure will arrest an attack. In some cases all these means fail, even when thoroughly used, and I have known such attacks go on, in spite of skilled treatment, for several hours. Chloroform is of little use; its administration is a matter of extreme difficulty, often impossibility, and the attack is commonly renewed, when the influence of the anæsthetic passes off. The remarkable effect of nausea in relaxing spasm, led me some years ago to try the effect of injections of apomorphia, and I have found in it an unfailing means of arresting the attacks. After the injection of a twelfth of a grain in four minutes with certainty all spasm ceases, and normal consciousness is restored; in six minutes the patient will get up and go to the sink; in eight minutes will vomit, and afterwards, except for slight nausea, is well. A twentieth of a grain has the same action, but is rather longer in its operation. Moreover, I have found that the treatment is, so far as the hysteroid symptoms are concerned, curative as well as palliative, for the attacks in many cases ceased after a few paroxysms had been thus cut short.—*Lancet*, April 10, 1880.

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False Diphtheritic Membranes.

Dr. GAUCHER relates the following case (*Le Progrès Médical*, No. 34, 1879). The patient, a child, aged four years, was apparently moribund. The trachea was opened and a canula introduced, but the child did not breathe. The canula was withdrawn, a tracheal dilator used, and artificial respiration for some time performed, also without success. Dr. Gaucher then introduced the forceps, and drew out a false membrane, forming a complete cast of the trachea and bronchi. The patient immediately began to breathe and ultimately recovered.—*London Med. Record*, April 15, 1880.

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A Case of Extreme Pharyngeal Stenosis the result of Syphilis; with Remarks.

Dr. T. GILBART SMITH and Mr. W. J. WALSHAM report (*Lancet*, April 17, 1880) the case of a woman, forty-seven years old, who was admitted on October 29, 1878, into the Royal Hospital for Diseases of the Chest, under the care of Dr. Gilbart Smith, suffering from prostration and dysphagia, accompanied by severe and recurrent attacks of dyspnœa. She gave a clear history of syphilis, which she had evidently contracted soon after her marriage twenty-six years before. She suffered for the first time ten years ago, from ulceration of the throat. This was relieved by treatment, but recurred at intervals up to the time of her admission. Eight months ago her voice became affected, and the movements of the tongue impeded. For six months she had been unable to swallow food, and for two months had suffered from severe and alarming attacks of dyspnœa. The tongue could not be protruded beyond the teeth; the right posterior pillar of the fauces was drawn backwards, and was adherent to the posterior wall of the pharynx. The uvula and a considerable portion of the soft palate had disappeared, leaving a clean semicircular border to the portion that

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remained. On laryngoscopic examination the epiglottis and vocal cords could not be seen, but an aperture was visible one-eighth of an inch in diameter at the bottom of a funnel-shaped depression to the left of the middle line on a level with the epiglottis. This was separated by a thick cicatricial band from another and deeper depression to the right, which terminated in a cul-de-sac, containing pus. This small aperture, after considerable difficulty, was made out to be the only entrance to the larynx and œsophagus.

Tracheotomy was performed by Mr. Walsham on November 1st. On Nov. 24th attempts at dilatation were made, and on succeeding days repeated, but they failed to produce any material benefit. Stretchings by means of laminaria and sponge-tents could not be borne. On Dec. 5th Mr. Walsham partially divided the cicatricial band bounding one side of the aperture with M. Ricord's urethrotome. On the 8th it was further divided with a pair of curved scissors. One blade being placed in the aperture, the other in the ulcerated depression, incision was made little by little from above downwards so that a full view was obtained of the cut surface of the tissues, and any vessel, if divided, could be seen and secured. Care was taken to enlarge the aperture as much as possible in such a direction as would allow the food in passing downwards to avoid the entrance into the larynx. The parts were then forcibly dilated by the finger and œsophagus bougie. On Dec. 12th another incision was made at a different spot, and the epiglottis, vocal cords, and arytenoid cartilages came into view. When the patient left the hospital, Dec. 18th, the aperture measured three-quarters of an inch in diameter, and admitted a full-sized œsophagus bougie.

On Sept. 23, 1879, she was again seen by Dr. Gilbart Smith. The aperture had not contracted in the least. Stenosis of the pharynx appears to be very rare. The authors describe three distinct forms. The first, the most common, is situated between the naso- and mid-pharynx, and is caused by ulceration and contraction of the posterior pillars of the fauces, and the drawing backwards and subsequent adhesion of the soft palate to the pharyngeal wall.

Cases of this kind are reported by Messrs. Bradley, Cheevers, Reid, Coulson, and Schech. The second form is more rare; it occurs between the mouth and the pharynx, and is produced by the ulceration and contraction of the anterior fauces and the drawing downwards and subsequent adhesion of the soft palate to the dorsum of the tongue. A case is reported by Mr. West. The third variety involves the lower part of the pharynx, as in the case now before the Society; the stenosis being produced by bands of adhesions or soft or tough membranes, which stretch across the pharynx, and glue the parts together. Other similar cases are reported by Schech, Gerhardt, Trendelenburg, Schroetter, West, and Cheevers.

The authors draw the following conclusions: 1. That tracheotomy is called for both as a temporary expedient to obviate sudden death from asphyxia, and as an essential factor for safe and satisfactory treatment. 2. That division, with a guarded knife, presents advantages over other methods of treatment. 3. That several small notches are preferable to a deep incision, and that, when possible, the parts should be divided from above downwards, so as to allow a full view of the surface of the tissues divided. 4. That the aperture should be enlarged in a direction so as to permit the passage of liquid food clear of the entrance to the larynx.

In this case the iodide of potassium was administered freely during the whole course of the case. There was active ulceration going on by the side of the cicatricial tissue; and there could be no doubt that the new tissue and thickening were due to previous ulceration. The relief afforded to the dysphagia by the

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operation obviated recourse to nutrient enemata, although perhaps they might have been resorted to with advantage. The effect of tracheotomy in arresting spasm of the glottis was an important fact. Allied to it was the occurrence in some cases of paralysis of the laryngeal muscles from the use of tracheotomy tubes; which has led to the suggestion that the tube should have an aperture made in it to allow of passage of air into the larynx from below, whilst the tube is worn.

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Defect of the Pericardium.

Dr. HANS CHIARI describes, in the *Wiener Medizinische Wochenschrift* for April 3d, a case of almost complete deficiency of the parietal pericardium. The subject was a man aged 46, who had died of cirrhosis of the liver and tubercular peritonitis, with old tuberculosis of the apices of the lungs. No special physical signs had been noticed during life on the part of the heart, except accentuation of the second sound in the pulmonary artery, which was attributed to the state of the lung. On removing the sternum, the heart was found lying quite free in the left pleural cavity, in immediate contact with the median surface of the left lung. Both lungs were adherent at the apices, and were here the seat of old indurations inclosing cheesy and calcareous masses; elsewhere they were œdematous. The apex of the right lung formed a separate lobe about the size of a hen's egg; and the upper lobe of the left lung was divided into two by a nearly horizontal fissure. The heart, which appeared normal in structure, lay in its normal situation with regard to the thoracic walls. The mediastinal layer of the left parietal pleura was found to the right of the heart, and extended into the right half of the thorax. From its left surface, along with the visceral pleura for the left lung, the visceral pericardium was developed, proceeding forwards from the hilus of the left lung. The transition from pleura to pericardium was for the most part direct, without folds. Only at the part where the pleura passed over the vena cava inferior there was a duplicature about three *centimetres* in depth, which, gradually becoming a crescentic fold, could be followed for seven *centimetres* along the posterior circumference of the auricle as far as the hilus of the left lung. This duplicature contained some adipose tissue. The mediastinal layer of the right parietal pleura was in its usual situation. The mediastinum was only three *centimetres* wide; it contained a little fat, and the usual structures (aorta, œsophagus, etc.) in their normal position. The left phrenic nerve alone was abnormal in position: it lay on the outer surface of the pleura, where the mediastinal passed into the parietal portion, crossing the heart obliquely to the diaphragm, into which it passed at an almost right angle. The diaphragm itself appeared quite normal, except that the middle division of the central tendon was somewhat smaller than usual.—*British Med. Journal*, April 24, 1880.

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The Diagnosis of Pericardial Adhesion.

After an analysis of the symptoms which have been given in earlier and in more recent times as diagnostic of pericardial adhesion, Dr. RIEGEL, in Volkmann's *Sammlung Klinischer Vorträge*, arrives at the conclusions (agreeing therein with the opinion expressed by N. Weiss in his work on the subject) that as yet we are far from possessing a constantly sure indication of the condition under consideration, and that it is only in rare cases that the diagnosis of pericardial adhesion can be readily made. This is especially the case when a high degree of systolic retraction of the apex of the heart, or even of a large portion of the neighbouring thoracic wall, is present. The presence of a systolic retraction points to little more than an impediment to the normal systolic movement of

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the heart; and other rare causes, which may lead to retraction, have to be excluded. If there be at the same time a diastolic collapse of the veins, or if the phenomena have been distinctly traced, under the eye of the observer, to pericarditis, the diagnosis is rendered more easy. The absence of the apex-beat becomes of diagnostic value, if there be evidence of previous pericarditis, and if, after this, the apex-beat, having been previously present, have gradually disappeared.—*British Med. Journal*, April 17, 1880.

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Endarteritis Obliterans.

An interesting contribution to the pathological anatomy of visceral syphilis has recently been made by Ehrlich of Berlin (*Zeitsch. Klin. Med.*, I., 2, page 378). In a fatal case of constitutional syphilis the heart was found to contain numerous foci of disease which might be briefly described as "gummata." Some of these masses were of a deep red or hemorrhagic appearance; others were whitish, or whitish with a hemorrhagic boundary. The origin of these "gummata" was found by Ahrlich to be endarteritis syphilitica obliterans affecting the smaller vessels—both veins and arteries—in the neighbourhood as well as in the centre of the masses. That the obstruction and finally the occlusion of the vessels had been the primary disease, and was not an effect of the other disease, was proved by the appearance of the muscular fibres within the region of the "gumma," which were uniformly and considerably atrophied. In short, the foci of disease were infarcts — partly hemorrhagic and partly anæmic. — *Med. Times and Gazette*, April 17, 1880.

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Alterations in the Alimentary Tract in Pulmonary Consumption.

Mazotti (*Bullettino delle Scienze Mediche*, January, 1880) states that, in fifty necropsies performed on patients who had died of pulmonary consumption, he found lesions of the alimentary tract in 38; in the remaining 12, no such lesions were present. In 37 of the cases so affected the lesions consisted of ulcers situated either on the tongue, pharynx, stomach, or large or small intestine, but not in the œsophagus, or rectum. In all cases, with one exception, the lesions were multiple, ulceration of the tongue, pharynx, or stomach existing simultaneously with ulceration of the intestines. In 12 cases the lesions were confined to the small intestine; in 5 to the large, while in 20 they affected both viscera. The author observes that, in cases where ulceration has been confined to the small intestine, the large has frequently contained solid fecal matter, thereby demonstrating a fact already remarked on by Niemeyer, that ulceration of the small intestines may exist without giving rise to diarrhœa. As a rule, the number and extent of the intestinal ulcerations bore a constant relation to the pulmonary lesions. In the small intestine, the ulcers were generally seated in the lower portion of the ileum, although in some cases they were confined to the ileo-cæcal valve, while in others they extended as high as the jejunum, and even duodenum. These ulcers in the earliest stage appeared as small white spherical bodies of the size of a pin's head springing from the mucous membrane. At a later stage they became larger, and the mucous membrane had shrunk away from their summits, thus leaving punctiform ulcers. In some cases, the ulcers were situated on Peyer's patches, and were multiple. In the large intestine, the lesions were as a rule confined to the ascending colon, though, when numerous, they were also found in the cæcum and around the vermiform appendix. The author remarks on the extreme rarity of tubercular granulations in the large intestine as compared with the small. The article extends to a considerable length, an analysis of each case being given, and ample references made to the literature of the subject.—*London Med. Record*, April 15, 1880.

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Eczema from Use of Atropia Collyria.

The remarkable susceptibility of certain individuals to particular drugs, as evidenced by a constant relation between their use and the appearance of eruptions of various kinds on the skin, has of late received much attention, especially in Germany, by Köbner and Behrend. Dr. JULIUS DONATH, of Baja (Hungary), records (*Wiener Med. Wochenscrift*, No. 12, 1880) a case where the introduction of a few drops of a 1 per cent. solution of sulphate of atropia into the eye was invariably followed by severe eczema and pseudo-erysipelatous swelling and redness of the face and neck. The patient was a woman of forty-five, of good constitution, with chronic disease of the left eye giving rise to corneal opacity and synechiæ.—*Med. Times and Gazette*, April 17, 1880.

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Treatment of the Itch at the St. Louis.

In a clinical lecture (*Gaz. des Hôp.*, Feb. 10) Prof. HARDY states that he has since 1852 employed in the treatment of the itch the ointment composed of one part of lard, a sixth part of flowers of sulphur, and a twelfth part of subcarbonate of soda. So efficacious have proved thorough and almost violent frictions with this, continued for twenty or thirty minutes, especially at the natural bends and folds of the skin, that the cure is absolutely certain. Among from 4000 to 5000 adults so treated at the St. Louis, in only one instance was a repetition of the frictions needed. The ointment, after the rubbing, should be left on for several hours, or all night, without washing. Next day an emollient bath may be taken, which may be repeated every twenty-four or forty-eight hours for a week.—*Med. Times and Gazette*, April 10, 1880.

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New Staining Fluid for Amyloid Organs.

Dr. CURSCHMANN, of Hamburg, has discovered that a substance called *methyl-green*, which has been lately introduced into practical histology as a staining medium, has a peculiar affinity for amyloid substance, and colours it an intense violet (*Virchow's Archiv*, vol. lxxix., part 3, page 556). The surrounding tissues, that have not undergone degeneration, are stained green or bluish-green, and the contrast is therefore very striking, whilst the smallest spot of amyloid disease can be readily discovered. Hardly less important than this discovery is the observation that methyl-green colours so-called hyaline-casts (*in situ*) ultramarine blue, so that these also can be readily distinguished in sections of the kidney from the green-coloured tissues around, as well as from the violet amyloid spots in which they may lie. Methyl-green, which can be purchased of any chemist, is used for staining in the form of a 1 per cent. aqueous solution. A few minutes' immersion of a microscopical section in this solution is sufficient; but sharper and more uniform coloration is produced by using a more dilute medium for a longer time. Preparations so made may be mounted in dilute glycerine, but not in Canada balsam, inasmuch as alcohol, turpentine, and oil of cloves quickly discharge the colour.—*Med. Times and Gazette*, April 17, 1880.

Surgery.

Accidental Inoculation of Syphilis by Tattooing.

M. ROBERT, a French army surgeon, gives (*Recueil de Méd., etc., Militaires*, Nov., Dec. 1879) an account of eight soldiers who were tatooed by a man

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suffering at the time from syphilis, and who had mucous patches about the mouth. The operator used his saliva to dilute the ink employed, and also moistened the needles in his mouth. Three of the eight soldiers developed syphilis, while five escaped, though only one of them had previously suffered from that disease. Some of the men, however, washed their wounds directly after the operation, which, together with the fact that the tatooer did not use his saliva so freely in some cases as in others, accounts, in M. Roberts opinion, for the escape of some of the men. In the three instances where syphilis followed, the initial lesions appeared in due course at the site of inoculation, which was in each case the right forearm, and were followed by enlarged glands and general syphilitic eruption.—*Lond. Med. Record*, April 15, 1880.

[The reader is referred to an extremely interesting case of a similar character reported by Drs. Maury and Dulles, in the number of the *American Journal of the Medical Sciences* for January, 1878, p. 44.]

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A New Treatment of Gonorrhœal Ophthalmia.

Mr. C. BADER, Ophthalmic Surgeon to Guy's Hospital, suggests (*Lancet*, May 1, 1880) a new mode of treatment of gonorrhœal ophthalmia based upon the fact that mercury, if thoroughly applied locally, has a destructive effect upon contagion. In vaseline, in itself of antiseptic origin, we have an invaluable means of bringing and keeping mercury in contact with mucous membranes, such as conjunctiva, urethra, etc.; daturin or atropin are added to counteract disturbances which, during the ophthalmia, may proceed from the iris and deeper parts of the eye. Mr. Bader uses an ointment, consisting of nitric oxide of mercury one grain, daturin one-fifth of a grain, vaseline one ounce.

Five cases are reported in which the disease was of a severe type, and in which this treatment was used with most gratifying success. The ointment is applied with a large camel's-hair brush beneath the upper eyelid, and the eye then bound up with lint smeared over with the ointment.

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Corneal Maculæ.

Dr. LOPEZ OCANA, in a paper published in *El Genio Medico-Quirurgico*, No. 1275, excludes all consideration of corneal albugo or leucoma, which he considers hopelessly indelible. A macula, however, which consists in a number of corneal cells in which the normal course of development has been interfered with, is capable of successful treatment. In cases where, together with maculæ, there exists also a chronic vascular condition of the palpebral conjunctiva, excellent results will be obtained by the use either of calomel or of red precipitate. In cases of simple maculæ, apart from other complications, the author has obtained very satisfactory results from a collyrium composed of tincture of opium and water, of a strength at first of 1 part in 8, gradually increased to 1 in 4. Should the eye become tolerant of the remedy, which will then lose much of its power, the author recommends a pomade composed of chrysophanic acid and vaseline, 1 in 40. This is an active preparation, and requires to be used with discretion and in small quantities, once a day or more, according to the degree in which it is tolerated.—*London Med. Record*, April 15, 1880.

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Case of Hysterical Blindness with Spasmodic Squint.

This case, which MANZ records at considerable length (*Berliner Klinische Wochenschrift*, Jan. 12, 19, 1880), presents a group of symptoms differing in some respects from any of the recently described hysterical affections of the

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visual function. The patient was a delicate girl, by occupation a governess. The following symptoms were developed whilst she was under observation; pain in the head, inward deviation of the right eye, followed next day by inward deviation of the left, each cornea being turned so much inwards that its inner margin was hidden by the caruncle; contraction of the pupils; extreme amblyopia, fingers being counted with difficulty at one foot; and concentric contraction of the visual fields. The refraction determined by the ophthalmoscope was slightly myopic; the optic disks were normal; perception of colour, when it could be tested, was intact. The girl stated that two years previously she had suffered a similar attack, lasting nine months, and associated with convulsions. While under treatment, and without known exciting cause, she was seized several times with convulsions in the form of a marked opisthotonos, with almost complete loss of consciousness. The symptoms above described underwent remarkable variations as regards their intensity within very short periods of time; sleeplessness intensified them, while sleep, procured if necessary by morphia, relieved them. The acuity of vision especially varied greatly even during examination, being rapidly lessened by the effort to use the eyes. Recovery, more or less complete, occurred several times, only to be soon followed by a recurrence of all the symptoms. With regard to the strasbismus, it is noteworthy that, when the condition was at its worst, both eyes were turned strongly downwards and inwards, and had lost all power of movement upwards and outwards. Reference is made to other cases of a somewhat similar character. [A case closely resembling this one in certain points is recorded in the *Royal London Ophthalmic Hospital Reports*, vol. ix. page 27.]—*Lond. Med. Record*, April 15, 1880.

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Method of Correcting Sinking of the Nose.

At a meeting of the Imperial and Royal Medical Society of Vienna (*Medizinische Jahrbucher*, January, 1880), Dr. Mikulicz showed a patient on whom he had performed rhinoplasty, and made some remarks on the subject. He said that the problem of making an artificial support to the nose, which was the most difficult part of rhinoplasty, had been attempted to be solved by surgeons in very various methods. Dieffenbach and Rust tried a support made of a plate of gold; this, however, produced suppuration by its pressure, and soon had to be removed. Leisrink used a support made of amber in the case of a child three years old, allowing the parts to heal over it. There is no information, however, as to the permanency of the success, or as to the state of affairs during the growth of the child. Other methods have been tried by Dieffenbach, Langenbeck, Busch, Volkmann, Thiersch, etc. The idea of Dr. Mikulicz was to construct a nasal support which might be inserted and removed at will, just as is done with artificial sets of teeth and artificial eyes, which do not produce ulceration if they are frequently changed and kept clean. He constructed for this purpose a support consisting of two symmetrical bent pieces of copper wire covered with vulcanized caoutchouc. The two first portions lie parallel to each other under the bridge of the nose, and raise it up. The two middle pieces lie like the sides of a steep roof, and occupy a position nearly corresponding to the lateral border of the pyriform aperture. The posterior piece is slightly curved, and rests against the lower border of the aperture. The apparatus can be introduced and removed by means of a small forceps, and, when in the nose, is not seen. It causes no trouble, and the wearer soon becomes accustomed to the sense of a foreign body which it produces. The patient, who was exhibited to the society, was a woman aged 27. She had worn the apparatus sixteen days, and had acquired considerable facility in its management.—*London Med. Record*, March 15, 1880.

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Complete Closure of the Larynx after Diphtheria.

Dr. STOERK relates the following case (*Wiener Medizinische Wochenschrift*, No 46, 1879). The patient, a boy 7 years old, had had an attack of diphtheria three years previously, for which tracheotomy had been performed. Three weeks after the operation the tracheal canula (an unfenestrated one) had been removed, but replaced immediately on account of difficulty of breathing. The child had worn it continually until he came under the care of Professor Stoerk. He was not able to speak aloud. A *cul-de-sac* could be seen with the aid of the laryngeal mirror just below the true vocal cords which moved freely, but their movement was not accompanied by phonation. There was no appearance of mucus, which generally makes its way up, even in very high degrees of laryngeal stenosis. A mirror introduced through the tracheal wound demonstrated a complete diaphragm between the larynx and trachea. The mucous surfaces, soon after the local inflammation, would seem to have grown together; the unfenestrated canula cutting off the passage of air and secretions which might have prevented such a result. The adherent tissues were divided, and the parts dilated. After the closure of the tracheal wound the boy regained his voice.—*Lond. Med. Record*, April 15, 1880.

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The Removal of the Pharynx, Larynx, etc.

This operation has lately been performed successfully by Professor CASELLI, of Bologna (*Il Morgagni*, September, 1879). The case was one of epithelioma with stricture of the glottis. The first step in the operation was to perform tracheotomy, and then insert Trendelenburg's canula; the next to lay bare the larynx and isolate it. This was then removed by means of the galvano-cautery, as were also the cricoid cartilage, and the pharynx as high up as the tonsils. The hyoid bone was next divided at its middle, and the base of the tongue amputated together with the soft palate, the remaining portion of pharynx up to the level of the posterior nares, and both tonsils. The operation lasted three hours, and but little blood was lost, owing to the constant use of the galvano-cautery. The dressing was antiseptic, and the upper two-thirds only of the wound brought together. An œsophageal sound and the canula were both maintained in position. At the time of writing, *i. e.*, fifty-three hours after the operation, the patient had completely recovered from the shock, and promised well. (The operation proved eventually successful, and Professor Caselli has been able to adapt an artificial œsophagus and larynx.)—*London Med. Record*, April 15, 1880.

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Case of Resection of the Anterior Wall of the Thorax.

Dr. L. SZUMAN reports (*Deutsche Zeitschrift für Chirurgie*, Band xii. Heft 4, 5) the following case from the clinique of Prof. Fischer, of Breslau. The patient, a woman aged 48, had, about four years before her admission, noticed, for the first time, a small fixed tumour over the fourth rib, and in a line with the mamma in the left side. After it had grown slowly during two years and a half, it commenced to increase rapidly in size, and extended into the left armpit. The growth of this swelling was attended with but slight and occasional pains. When first seen by Professor Fischer in June, 1878, she presented a tumour occupying almost the whole of the anterior wall of the left side of the thorax. Externally the growth extended to the scapular line, and into the left axilla, preventing complete adduction of the arm. Upwards it reached as far as the clavicle, downwards to the seventh rib, and internally to the left margin of the sternum. It was firmly fixed at its base, and projected forwards to a considerable distance in

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front of the level of the right nipple. Its anterior surface was studded by hard, small, and rounded growths. The integument over the tumour was movable, quite sound, and traversed by numerous enlarged veins of a dark-blue colour. The general health of the patient was good. As the rapidly growing tumour would speedily have compressed the nerves and vessels of the left upper extremity, and as the mass by its weight and enormous size prevented the patient from working for her support, Professor Fischer decided to extirpate the disease. The operation was commenced under the assumption that the costal pleura might have been readily stripped off from the base of the tumour, and from the diseased portions of the ribs. It was found, however, in the course of the operation that the growth extended for some distance into the left cavity of the chest, and that it was in close connection with the costal pleura. A vertical incision having been made in the integument, the superficial portions of the growth were cut away, and portions of the third and next three inferior ribs separated and removed. The deep and pleural portions of the tumour were then dissected away, and in the course of this stage of the operation the left thoracic cavity was freely laid open, and the left lung and the surface of the pericardium fully exposed. Every bleeding vessel was at once secured, and the patient lost but little blood during the operation. A large drainage-tube having been carried across the thoracic cavity, and another along the more superficial parts of the wound, the edges of the skin were brought together, and fixed by sutures. The surface of the chest had been carefully disinfected before the operation, and the wound was afterwards covered by Lister's dressing. The carbolic acid spray was not used during the operation, nor on subsequent change of dressing. The result of the case proves, Professor Fischer states, that the use of the spray is not an essential adjunct to antiseptic surgery. The patient suffered much at first in consequence of collapse of the left lung, but afterwards progressed favourably. The wound was quite closed on the fortieth day. The extirpated tumour weighed nine pounds and a half. On examination it was found to be an enchondroma that had ossified at its base, and had undergone colloid degeneration at its superficial parts. Portions of the third and three following ribs had been involved in the growth. The portions of the fourth and fifth ribs that were removed measured each about four inches and a quarter in length; those of the third and sixth ribs each about half this length. In a report on the condition of the patient after her recovery, Dr. Szuman states that there was perfect movement of the left arm, and that the pectoralis major, which had been previously attached to the tumour, had now become attached to the remaining portions of the upper ribs, and performed its functions quite well. The portion of integument which had been so much stretched over the surface of the tumour was drawn inwards between the left lung and the wall of the thorax, and was firmly adherent to the pleura pulmonalis. The left lung, though collapsed, was not atelectatic, and, when the patient coughed, it occupied the whole of the left thoracic cavity. The defect in the anterior wall of the thorax corresponded to the size of an infant's head; the heart, covered only by pericardium and a portion of integument adherent to the sac, could be seen pulsating in the middle of the defect, and the contractions of the left auricle and ventricle could be distinctly seen and felt.—*Lond. Med. Record*, April 15, 1880.

Statistics of Cancer of the Breast.

Dr. J. Oldekop has published, in the twenty-fourth volume, of the *Archiv für Klinische Chirurgie*, a statistical summary of all the cases of mammary cancer occurring in Professor Esmarch's hospital and private practice from 1850 to 1878. With regard to age, most of the cases occurred between the forty-eighth

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and fiftieth years; in 123 patients the age did not exceed 48; in 71, it was between 48 and 58; and, in 35, the age was 59 and upwards. In 21 cases, there are no particulars as regards age. Women who had borne more than six children furnished the greatest contingent, and next came those who had no children. There were nine in this category, against 103 who had given birth to children. In 61 cases in which the information could be obtained, 15 had not, and 46 had, suckled their children. In 36 cases, mastitis had preceded; but in only 9 was it ascertained with certainty that the cancer had its starting-point in an induration or cicatrix remaining after mastitis. In three cases, there had been contusion with extravasation; the extravasation, after some years, forming the centre of the new growth. In two cases, the seat of the primary nodule was a part of the breast which had been for some years pressed on by the string of the corset; in a third, it was a part that was often pressed on by a yoke. In 126 cases, the right breast was diseased, in 102 the left. The outer and upper part of the mamma was most frequently first affected; and this is ascribed by Dr. Oldekop to the greater liability of this part to injury. In three cases the cancer was preceded by chronic eczema of the breast. Circumstances indicating the influence of hereditary tendency were noticed in eleven cases. The average duration of life from the commencement of the disease was, in the cases not operated on, 22.6 months; in those operated on, 38.1 months. On 225 patients, 287 operations were performed. Of these 225, there died in the hospital 28; viz., 5 from return of the cancer, and 23 from the operation; among these were 14 cases of total extirpation of the mamma with removal of the axillary glands. With regard to the influence of treatment on the mortality and on the time required for healing, Dr. Oldekop's statistics show no marked difference between the antiseptic and the non-antiseptic methods; he remarks, however, that erysipelas has been less frequent in Dr. Esmarch's practice since the introduction of the antiseptic method. The time after the operation at which the disease returned is noted in 112 cases. In 14 cases it immediately followed the operation; in 15, it took place within the first month; in 23, within three months; in 15, within more than three and less than six months; in 13, from the seventh to the ninth month; in 14, from the tenth to the twelfth month; in 9, from the thirteenth to the eighteenth month; and in 8, within three years. In one doubtful case the interval is said to have exceeded three years. At the time of the report, 44 of the women had remained free from a return of the disease; of these, six had died of intercurrent diseases; three within three years since the operation, and three after three years. In 15, the time during which they had remained free from relapse was under three years; and, assuming three years as the extreme time for a return of the disease, 26 could be regarded as definitely cured; in 10 of these, the infiltrated axillary glands had been removed with the mammary cancer. In some cases a second operation was necessary. Although the number of cases in which a complete cure followed the operation is not large, Dr. Oldekop regards it as sufficiently encouraging to induce surgeons to operate early, and thus increase the chance of a good result.—*British Med. Journal*, April 17, 1880.

On the Treatment of Gonorrhœa.

(*Concluded from last Number, page* 300.)

3. *Indirect Treatment of Gonorrhœa.*—It often happens that local means do not alone suffice in the treatment of chronic gonorrhœa, and then we have to supplement these by the use of medicinal substances acting through the digestive passages. Most of the substances thus employed, when introduced into the digestive organs, are excreted into the urine, and in this way act curatively on the

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gonorrhœa. Amongst those which are especially active in this way may be mentioned the balsams of copaiba and Peru, cubeb pepper, oil of turpentine, gurian balsam, and matico. Recently the kava-kava or ava-ava has been strongly recommended for the treatment of acute and chronic gonorrhœa, but it has not succeeded in Prof. ZEISSL'S hands. On the other hand, preparations of iron have proved very efficacious. As to the question, when should these substances be commenced? a general rule can scarcely be laid down. In hospital practice, when the patient can be closely watched, recourse to them need be had but comparatively rarely; but in private practice the case is different. Patients wishing to pursue their occupation often neglect the injections for a whole day, or they perform them so unskilfully that not a drop of the fluid enters the urethra. Under such circumstances we must have recourse to internal medicines. But it is also often observed that after continuing injections for days the discharge does not diminish, and continues very thin; while after the employment of some of the above-named substances for some time it lessens in quantity and acquires consistence. The opinion is frequently expressed that the employment of these resinous substances, especially copaiba, may give rise to albuminuria, but Prof. Zeissl has never met with an instance in the thousands of cases which he has treated by resinous substances. The opinion has indeed arisen through ignorance of chemistry. It has been observed that, on the addition of nitric acid to the urine of a person who has employed these medicines, a white precipitate is produced. But this precipitate is again dissolved by boiling, which is not the case with a precipitate of albumen produced by nitric acid. Or if we boil the urine, slightly acidulated with acetic acid, or apply Hoppe-Seyler's sensitive test, no trace of albumen is seen to exist. Weikart's and Prof. Zeissl's experiments have shown that it is not the ethereal oil but uric acid that is precipitated by the nitric acid. These resinous bodies sometimes give rise to a form of urticaria (U. balsamica), but this soon disappears on discontinuing the remedy. The following formulæ are recommended by Prof. Zeissl: 1. Matico in capsules (fifteen a day); 2. Ethereal extract of cubebs and spirit of turpentine, equal parts, made into a pill-mass with magnesia usta, of which twenty-four pills weighing each 35 centigrammes should be taken daily; 3. Copaiba 15 or 20 drops three times a day in capsules; 4. White wax 5 grammes melted by a gentle heat, balsam copaiba 15 grammes, magnesia 9 grammes, to make a pill-mass, eight pills of 30 centigrammes three times a day. Balsam of Peru, turpentine, and similar substances may be given in the same way. 5. Of preparations of iron, a teaspoonful may be given five times a day of a mixture containing 1½ parts of the liquor ferri, 150 of water, and 25 of syrup of raspberries; or 1 gramme of saccharated carbonate rubbed up with 3 grammes of sugar may be divided into ten powders, of which three are given daily. Prof. Zeissl has given a fair trial to an infusion of the kava-kava root, which is in fact the *Piper methysticum*, but has found it completely useless.

As already observed, not unfrequently neither the direct nor indirect treatment succeeds in effecting a cure, and then we have to resort to the use of bougies and sounds; the cause of this prolonged duration of the affection being the implication of the prostate. As Thompson remarks, most practitioners in treating gonorrhœa pay too little attention to the disease of the prostate which may be consequent upon this. Prostatitis in its acute form indeed is rarely overlooked, on account of the severe suffering that attends it. Very severe pains are felt in the perineal region, especially on walking or when sitting, while a sensation is perceived as if the rectum were obstructed by a foreign body, and the passage of the feces and of the urine is rendered difficult. On examination by the rectum the prostate is found swollen and very sensitive; and if the inflammation goes

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on unchecked, in from the eighth to the twelfth day suppuration takes place. Generally the abscess so formed discharges itself, and usually during the ejaculation consequent upon a lascivious dream. If, however, there is a violent pain with high fever and evident fluctuation, an incision must be made through the rectum for the discharge of the pus; but although Prof. Zeissl has had many cases in which this operation has been performed with the best results, yet he has never had recourse to it except in the extremest need, as there is always danger of the healing process being impeded by the passage of the feces. In very rare cases the prostatic abscess is discharged through the perineum, and a urinary fistula may then be the result.

Chronic inflammation is, however, a far more frequent occurrence than acute prostatitis. The symptoms in both forms are similar, except that the accompanying febrile action is more of the synochal type in acute, and more of the intermittent type in chronic prostatitis. The patients complain of a dull sensation in the perineum, especially when standing or walking, as also of pains in the sacral region and along the posterior parts of the thighs. The urine contains epithelial cells mingled with pus corpuscles and prostatic secretion. On examination by the rectum, the prostate is seldom found enlarged, but it is more or less sensitive to strong pressure. A patient in this condition may employ injections, and even those which contain a pulverulent deposit, for months, and yet not be completely cured. As already stated, such a case must be treated by the elastic bougie, or better still by means of a solid instrument. Choosing one corresponding to the size of the orifice of the urethra, we find, supposing there be no stricture present, that we can pass it without obstacle on to the prostatic portion of the urethra. Arrived here, we are unable to pass into the bladder unless we employ considerable force—which is always to be avoided. An instrument of three or four numbers less will pass without difficulty into the bladder, causing during its passage through the prostatic portion not only the stabbing pain always felt on gliding over the caput gallinaginis; but also a severe burning sensation along the entire prostatic portion. After the first introduction of a solid instrument there usually issue from the urethra one or more drops of a viscid fluid mingled with blood-serum, and which is nothing else than the prostatic secretion combined with a little blood derived from the hyperæmic prostate. An instrument must be passed daily for several days, and after the second or third introduction a larger one will pass easily into the bladder. One rule should be observed in cases in which the passage is not effected easily over the prostate into the bladder—viz., to greatly depress the instrument, when it will easily slip into the bladder. It is always preferable for beginners to employ a metallic catheter rather than a sound, as it is a source of great satisfaction to them to see the urine flow from the bladder, and not remain in painful doubt, during the four or five minutes the instrument ought to remain, whether it is actually in the bladder or has made a false passage. If this procedure be continued for some days, the patient observes, sometimes by day, but much oftener at night during sleep, that there is a considerable quantity of a viscous fluid discharged from the urethra, unaccompanied by lascivious dreams or erections, and which leaves a sharply defined gray spot on his linen. This is a sign that the chronic prostatitis has come to an end. After each introduction of the instrument either some water or a very dilute solution of a metallic salt should be injected, in order to wash away any of the oil which may have become detached from the sound, as this induces a rather sharp burning sensation in the urethra.

By this mode of treatment a chronic gonorrhœa which has often persisted for years is cured in a comparatively short time. The secretion which appears at the mouth of the urethra in this affection arises not only from the small diseased

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spots of the urethra still uncovered by epithelium, but also at least in part from the prostate. By the introduction of the sound a sharper irritation is excited in the portions of the mucous membrane of the urethra suffering from chronic catarrh, and the moderately swollen prostate is at the same time submitted to compression, and in this way the symptoms which characterize chronic urethral catarrh are brought to an end. In Prof. Zeissl's opinion, chronic gonorrhœa never exists without a moderate tumefaction of the prostate, which, however, is not always perceptible to the sense of touch. In confirmation of the correctness of this view, it is to be observed that individuals who have very frequently had gonorrhœa, or in whom gonorrhœa has persisted for a long period, are the subjects of a considerable enlargement of the prostate in their thirty-fifth year, and often even younger. This hypertrophy is the result of the hyperæmic condition which the prostatic portion of the urethra and the prostate itself are in during the existence of chronic gonorrhœa; and we all know that an organ to which for a long time a very large supply of blood is conveyed becomes hypertrophied.—*Medical Times and Gazette*, Feb. 21, 1880.

Urethro-perineal Inflammation and Abscess due to Gonorrhœa.

M. MAURIAC (*Gazette des Hôpitaux*, Feb. 17, 1880) remarks that peri-urethral abscesses, when situated in the penile portion, appear as hard red painful lumps, and may be met with anywhere between the fossa navicularis and the bulb. They sometimes cause considerable peripheral œdema, are readily diagnosed, and run a rapid course. To avoid fistulæ, an early opening should be made. Abscesses around the deeper urethra are much more serious than those just mentioned. They generally begin in Cowper's glands or the prostate, and, if care be not taken, may be mistaken for abscesses connected with stricture, or for superficial abscesses unconnected with the urethra at all. The inflammation of the urethra may extend to all the glands in connection with it, from the simple acini to the conglomerate glands of Cowper and the prostate. Acute inflammation of Cowper's glands nearly always ends in suppuration. The most frequent cause is gonorrhœa, when it has lasted from twenty to twenty-five days. Balsamic remedies and injections do not appear to have any influence in causing inflammation of these glands; but it sometimes follows immoderate sexual indulgence, or a blow on the perineum, and may also arise from the introduction of too large an instrument into the urethra, or from the retention of a bougie. One gland only is usually affected, and the left more often than the right. It is rare for both glands to be attacked at the same time. The abscess may point externally or internally; sometimes it opens both through the perineum and into the urethra. Suppuration occurs from the fifth to the tenth day, and in eight or ten days afterwards cicatrization is usually complete. As a general rule, if the urethra be free from stricture, any inflammatory swelling deep in the perineum at its anterior portion is connected with Cowper's glands; while abscesses in the posterior part of the perineum are connected either with a lesion of the anus or of the prostate. Simple perineal abscesses may, however, occur, and when not seen early, there may be some difficulty in the diagnosis; such abscesses, however, quickly close after incision, and urinary infiltration never takes place. The treatment of inflammation of Cowper's glands, before suppuration has taken place, consists in the application of leeches, blue ointment, and extract of belladonna, poultices, prolonged baths, and rest. Saline purgatives should also be given. As soon as fluctuation can be made out, or even before it is well marked, the swelling should be incised. Inflammation and abscess of the prostate are also described by the author.—*London Med. Record*, April 15, 1880.

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Syphilitic Ulceration of the Bladder.

In this paper (*Vierteljahresschrift für Dermatol. und Syphilis*, 1879, Heft 4) PROKSCH does not bring forward any example of his own, but gives an account of six cases, which comprise all the satisfactory instances he has been able to find recorded during the last four hundred years. The six cases include one by Morgagni, two by Ricord, one by Virchow, one by Vidal (de Cassis), and one by Tarnowsky. Proksch sums up the information afforded by a study of these cases as follows. Ulceration of the bladder, sometimes, though rarely, happens in syphilis. The age of the patient has no influence on the occurrence of the ulcers, which have been found in patients from four to eighty-four years of age. There were four men, one woman, and one child. Vidal's patient was of vigorous constitution; Tarnowsky's patient was, on the contrary, weakly. The ulcers of the bladder occurred in four cases with, and in two without, ulcers of the urethra. The affection came on in Ricord's and Vidal's cases about the beginning of constitutional manifestations; in Virchow's and Tarnowsky's cases, other syphilitic lesions had gone before. In Ricord's cases, the ulcers of the bladder and urethra were the only secondary signs present. The number of ulcers varied between one and eleven; but in two cases, the ulceration was diffused. The size of the ulcers varied from a lentil to a kreuzer. The ulcers were either superficial (Tarnowsky), or penetrated the mucous tissue (Ricord). In Vidal's case, the wall of the bladder was perforated. The termination of the cases was either healing of the ulcers (as in Virchow's case, and to some extent in one of Ricord's cases), or death from perforation of the bladder. What share the non-perforating ulcers had in the fatal result, cannot be proved. The symptoms of ulceration during life would vary according to the seat, number, size, and depth of the ulcers; but cystitis and catarrh of the bladder, varying in degree in different cases, would probably be present.—*Lond. Med. Record*, April 15, 1880.

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Use of the Catgut Ligature in Aneurism.

Dr. M. TAPIA gives (*El Genio Medico-Quirurgico*, No. 1275) a series of three cases of aneurism successfully treated by ligature of the arteries involved, the antiseptic method having been employed in all three. The first occurred in a healthy male, aged 31, and involved the axillary artery in its first stage. Pressure, with iodine and digitalis internally, were apparently giving satisfactory results, when unexpectedly the sac of the aneurism burst, and the patient's arm quickly became enormously swollen. In these circumstances it was necessary to at once secure the vessel, which was done under strictly antiseptic precautions with a very satisfactory result. The highest temperature was on the night after the operation, when the centigrade thermometer showed 40 deg. (104° Fahr.). The wound healed without any appreciable suppuration, and the patient was discharged cured within six weeks. In the second case, a large axillary aneurism necessitated ligature of the subclavian. The artery was exposed at a depth of seven centimetres, and inclosed in a loop of catgut which was left buried in the wound, causing not the slightest symptom of irritation. The treatment, which was antiseptic throughout, was continued for a month, and resulted in complete recovery. The third case was one of popliteal aneurism, in which ligature of the femoral artery was successfully performed, after pressure by means of weights had failed. The author considers these cases as affording strong arguments in favour of the antiseptic ligature, which in his opinion diminishes very considerably the risk of secondary hemorrhage and other accidents. Most of the substances hitherto used as ligatures act as foreign bodies, and set up irritation and inflam-

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mation in the vascular walls with eventually perforation and hemorrhage. Against this particular danger, the catgut ligature appears to be a complete safeguard.—*Lond. Med. Record*, April 15, 1880.

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Ligature of the Carotid for Aneurism of the Innominate Artery.

The case reported by M. SABATIER (in the *Lyon Médical*, Oct. 5, 12, 1879), from the treatise of M. Desgranges, is worth recording as a fresh instance of the distal operation in (presumed) innominate aneurism, and to some extent of its good effect, though its value is seriously diminished by the absence of any *post-mortem* examination.

The symptoms are given in detail, but we do not judge it necessary to reproduce them here. It is sufficient to say that they were such as seem to justify the diagnosis of aneurism of the innominate artery—though, as far as the present reporter can see, there is nothing to show that the aorta was not also affected, nor even to render it absolutely impossible that the aneurism might not have been purely aortic, as it was in Mr. Christopher Heath's well-known case. All that is said on this head is, that the diagnosis of aortic aneurism was excluded on account of the development of the tumour so exclusively on the right side of the thorax. But Mr. Heath's and other cases show that this sign is not by any means certain. The right carotid artery was tied on February 8, 1878. This was followed at first by a considerable diminution of the pulsation and size of the tumour, but in a few days the parts around the wound became inflamed and œdematous, and then the tumour began to grow in size—though the pulsation continued more feeble, and the rheumatic pains of which the patient had complained were much easier; and in this condition he remained till he quitted the hospital, after a stay of three months. At that time, his general condition was one of much general weakness. He survived his discharge from the hospital about nine months, and died from a cause which seemed quite unconnected with the aneurism—viz , from bronchitis contracted during a period of very cold weather. He had been under medical observation, and the aneurism had been going on so well—contracting and becoming harder, as he recovered his general health—that hopes were entertained of a complete cure. It was noticed that, during his fatal illness, though the cough was very violent, it did not in the least affect the size of the tumour. As stated above, no *post-mortem* examination could be obtained.

In the remarks which the narrator of the case has appended, he discusses chiefly the operation of Brasdor (or Wardrop), and mainly addresses himself to the question whether it is desirable to tie the carotid alone, the subclavian alone, or both arteries simultaneously. He resolves this question in favour of the ligature of the carotid only, for the same reason which has led the present reporter to incline to the same conclusion; viz., because it is the treatment which allows a more logical explanation of its action on the sac than the ligature of the subclavian does, inasmuch as the coagulation of blood which usually occurs in the whole carotid artery after successful ligature may be expected to extend into the portion of the sac through which the blood going to the neck has been circulating. Strangely enough M. Sabatier believes that this consideration has been hitherto overlooked. He says, "Lastly, and this is a circumstance to which the authorities do not allude, the portion of the carotid below the ligature will be obliterated in all its extent, and the coagula reaching the inner wall of the sac will become the origin of new coagulation, in virtue of the old adage that fibrin produces fibrin." Evidently, M. Sabatier has never read the *Lectures on Aneurism*, delivered, by the present writer, at the Royal College of Surgeons, and published in French in

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the *Gazette des Hôpitaux*, in which this fact is dwelt upon at a very great length. Nor has M. Sabatier had the opportunity of perusing the very interesting and important cases of double distal ligature which Mr. Barwell has recently published. These cases do unquestionably tend to restore our confidence in that method, and to predispose us to admit that the ligature of the third part of the subclavian may have some curative influence, however difficult it may be to account for it theoretically. In one of Mr. Barwell's cases, in which the patient died some months after the operation, of bronchitis, very much as M. Desgranges's patient did, Mr. Barwell states (*Med.-Chir. Trans.*, vol. lxi. p. 31) that the whole of the subclavian artery was obliterated; and in a second case (*Ibid.*, vol. lxii. p. 395) where the patient was still alive, he believes that the same result was obtained. The latter case, however, is obviously inconclusive; and in the former the *post-mortem* examination was confessedly somewhat imperfect, and the preparation did not show any definite anatomical proof of a result so diametrically opposed to all our other experience of the phenomena of the collateral circulation after ligature, since, beyond all doubt, the ordinary and usual effect of tying the third part of the subclavian would be, not to obliterate, but to insure the patency of, the first part, through which the circulation for the arm must pass; and if the carotid were also tied, one would expect that the circulation through the thyroid axis would be greatly increased, and, therefore, the first part of the subclavian proportionately dilated. Nevertheless, no one is more prepared than the present writer to admit that theory must bow to experience; and if the results of the latter are so decisively in favour of the simultaneous double ligature as Mr. Barwell's experience seems to indicate, we must be prepared to adopt it. Meanwhile, such cases as this of M. Desgranges' are valuable, as showing what may be effected by the ligature of the carotid only, though it is a great pity that no necropsy was obtained.

The suggestion that M. Sabatier makes is worth bearing in mind; whether, in cases otherwise hopeless, it might not be worth while to try the effect of simply exposing the tumour by dissection, without tying any vessel; recollecting the well-known case under the care of Porter, where consolidation and apparent cure followed in a subclavian aneurism, though the innominate artery, when exposed, was so diseased that the surgeon did not venture to put a ligature on it.—*London Med. Record*, April 15, 1880.

Case of Arterio-venous Aneurism Cured by Pressure.

MEDINI relates (*Bulletino delle Scienze Mediche*, January, 1880) an interesting case of traumatic aneurism of the common carotid, involving also the internal jugular vein, in which a complete cure was effected by steady long-continued pressure. The patient had received a stiletto-wound in the left side of the neck; and, when first seen, the tissues around the seat of injury were enormously swollen and infiltrated with blood. The diagnosis admitted of no doubt, as all the signs of arterio-venous aneurism were well marked. Treatment by cold, absolute rest, and digitalis, having failed, and the statistics of the operations hitherto performed for the cure of arterio-venous aneurism in this situation being very unfavourable, the author determined to have recourse to direct pressure. He employed for this purpose Rizzoli's horse-shoe compressor, which he considers to offer certain advantages over Signoroni's, one being that the pads are movable and can be applied in any direction. After a few days of this treatment, the improvement was so marked that the patient anxiously seconded the efforts of the surgeon, and kept up regular pressure by means of the screws attached to the pads, which he manipulated himself. After five weeks he left the hospital much improved, though the aneurism still existed. The author therefore adapted a semicircular pad

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with two cushions to the part, and directed the patient to wear the instrument continuously. The result was most satisfactory. When next seen, all traces of the tumour had disappeared, save a small hard lump of the size of a hazel-nut, which was probably the obliterated jugular vein. The steps in the process of cure had probably been (1) closure of communication between the vein and artery; (2) obliteration of the vein, by which the aneurism became a simple arterial one, (3) which eventually became consolidated and absorbed.—*London Med. Record*, April 15, 1880.

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Nerve-Stretching.

AMBONI records (*Annali Univ. de Medicina e Chirurgia*, Jan. 1880) a case of obstinate neuralgia of the upper arm with contraction of the forearm, and pain radiating over the whole upper half of the left side, successfully treated by stretching the nerve-trunks of the brachial plexus. The patient, a female, was 39 years of age, and the affection had lasted over a year, having commenced shortly after an extensive abscess in the axilla had ceased to discharge. Every method of treatment had failed to give relief, and as a last resource the author determined to cut down on the brachial plexus, and expose the nerves forming it. The operation was one of considerable difficulty, and lasted over an hour. Twenty ligatures were applied, four of which were on veins. The connective tissue around the nerves was carefully removed, and their trunks exposed and stretched; a drainage-tube was then inserted, and the wound closed with sutures. The operation was scarcely finished before its good effects became evident. The patient could at once move the fingers and forearm, and was quite free from all pain. The wound healed without any bad symptom; and, up to the time of writing, seventy-four days after the operation, there has been no return of the neuralgic pains.—*London Med. Record*, April 15, 1880.

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Sutural Junction of Wounded Nerves.

In a paper read before the Berlin Medical Society on January 14th of the present year, and published in the *Berliner Klinische Wochenschrift*, No. 8, Baron VON LANGENBECK gives the details of a case, the subject of which, a labourer aged 31, had received severe injuries through the fall of a ceiling. The patient, when first seen, presented a large scalp-wound in the frontal region, and was unable to stand in consequence of an injury, probably fracture, to the lumbar portion of the spine. The integument over the outer surface of the right arm in its lower half was much bruised, and there was complete paralysis of the extensors of the hand and fingers on the same side, with loss of sensation over the back of the hand. The bruised portion of integument above the elbow subsequently sloughed. At the end of the second month the patient had recovered from the more severe injuries, but still remained under treatment in consequence of the following condition of the right upper extremity. The bruised and necrosed portion of integument had been replaced by a tender cicatrix, which was situated over the spot where the median nerve passes between the triceps and brachialis anticus muscles, before taking its course along the forearm. The extensor muscles of the hand and fingers were completely paralyzed, and the affected muscles failed to react both to the constant and the induced currents. There was loss of sensibility in the skin over the back of the hand and forearm. This condition was regarded as the result of a solution of continuity in the median nerve, produced at the time of the separation of the sloughing portion of skin from the outer surface of the arm. An incision having been made through the cicatrix, the divided nerve was exposed, and its two extremities, separated from each

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other by an interval of about two centimetres, were dissected out from the surrounding cicatricial tissue, trimmed with scissors, and then brought together by a catgut suture. Considerable difficulty was experienced in bringing the free ends of the divided nerve into close contact, and fears were entertained that the suture would speedily tear itself away. On the twentieth day, however, after rapid healing of the wound, which had been dressed antiseptically, there was decided reaction of the extensor muscles to the induced current, and in the course of a few days the patient was able to extend his fingers. The patient, when discharged at the end of the seventh week, could move his fingers very freely, and also extend his hand, though he could not raise it beyond the horizontal position. In his remarks on this case, Dr. von Langenbeck states that the fact of a divided nerve, when joined by suture, healing by primary union and rapidly regaining its functions, has been proved beyond doubt by the recent experiments of Gluck on fowls. According to this observer, the restoration of conduction in a wounded nerve depends on the formation of an intermediate substance consisting of granulation tissue, which is deposited in small quantity when the perineum remains intact, and in abundance when a completely divided nerve has been joined by suture. In this intermediate substance Gluck found, on the fourth day after section of a large nerve, large granular spindle-cells, which are arranged in rows and run together at their elongated extremities. These spindle-cells, which Gluck regards as glanglion-cells, as they are darkly stained by osmic acid, are converted into fibres which connect the axis-cylinders at the extremities of the divided nerve, and their protoplasm becomes differentiated into axis-cylinders and medullary substance. Clinical observations on the results of suture of nerves in man have not hitherto been so conclusive as the experience of trials made on animals. In the former, the suture was almost always applied to a sensory nerve, and the determination of such results as may be thus attained must necessarily be both difficult and doubtful. It is not easy to make out to what extent the sensibility of the region supplied by the wounded and sutured nerve has been restored, and moreover, there is likely to be deception on the part of the patient. The author states that, in most of the cases hitherto recorded of sutural junction of nerves, the required results have been doubtful or altogether wanting. The efficacy of sutural junction should be more satisfactorily determined by dealing with a motor nerve, because in such case the surgeon is able, by the use of the induced current, to make out the extent of the paralysis caused by the injury to the nerve, and also the extent to which the functions of the wounded nerve have been restored after the application of the suture. Von Langenbeck's case is therefore of value as proving that, by bringing together the ends of a divided nerve with a suture, union by primary intention may take place, and the function of the trunk be restored.

This, the author states, is the third reported case of secondary suture of the median nerve. In one case reported by Letiévant, sutural junction of a wounded median nerve was attempted, but without success, two years and a half after the receipt of injury. In the remaining instance, Esmarch applied a suture to the same nerve sixteen months after its division by an extensive wound. In this case the operation was followed by partial success. The best material for the suture for a wounded nerve trunk the author believes to be catgut. This causes less irritation than silk or wire, does not need removal, and does not interfere with the process of primary union. This case differs from other cases of divided nerve trunk hitherto reported, in the fact that no swelling was observed at either of the separated extremities of the nerve. The author attributes this to the fact that the median nerve had not been divided by sudden and violent injury, but had gradually given way during the separation of a slough. Another point of

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interest in this case is the fact that regeneration of the nerve-tissue and restoration of the function of the median nerve so speedily followed the operation, although, as was found on microscopical examination, no nerve-elements existed in the small portions removed from the free ends of the nerve by scissors. In all previously recorded cases of suture of nerves, the centripetal propagation of impression was the first to be renewed. In Dr. von Langenbeck's case the opposite result was observed, the anæsthesia of the integument on the dorsum of the hand having persisted long after the movements of the extensor muscles had been almostly completely restored.—*London Med. Record*, April 15, 1880.

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Modified Amputation of the Foot.

In a thesis upon Chopart's amputation of the foot, Dr. Duchamp,[1] after a careful *résumé* of the bibliography of the subject, gives in the appendix the mode of procedure suggested by Dr. Leon Tripier, of Lyons. This, however, cannot be called a modification of Chopart's amputation, as the author implies. It is rather a modification of the subastragalar, as the incisions are almost identical. But by whatever name it may be called, it is an operation well worthy of consideration, in cases of injury or disease, when the anterior portion of the foot has to be sacrificed.

Chopart's amputation has been perhaps universally looked upon with considerable disfavour, on account of the painful stump and tilting of the heel which follow sooner or later in many cases; and the cause of this is no doubt primarily the loss of the front half of the arch of the foot—a loss which it is extremely difficult to replace by mechanical means. The immediate cause does not appear to be so much any contraction of the tendo Achillis as of deeper tendons, and especially ligamentous structures; the latter of which are, according to Max Schede, dragged upon by the tendency to backward slipping of the calcaneum. Examining the static conditions of the foot, M. Leon Tripier noticed that a horizontal plane, on a level with the sustentaculum tali, would divide the calcaneum at right angles to the axis of the limb, and expose a large surface of support; and he proposed, therefore, an operation after the following plan, in place of the usual method of Chopart's amputation.

The flaps are to be marked out by two elliptical lines, the first extending from the outer part of the tendo Achillis at its insertion, then passing two finger-breadths below the outer malleolus, and the same distance above the tuberosity of the fifth metatarsal bone, to end on the inner side of the extensor proprius pollicis tendon, opposite the posterior extremity of the first metatarsal bone. This is to be the dorsal flap. The plantar marking extends from the last-named point downwards and forwards to about an inch in front of the base of the first metatarsal bone, in the sole of the foot, then obliquely across the bases of the metatarsals to the outer side of the foot, and so to the starting-point at the outer side of the tendo Achillis.

The stages of the operation M. Tripier divides into four: 1. Section of the skin; 2. Division of the subcutaneous tissues; 3. Division of muscles and tendons; 4. Disarticulation and section of the bone. With reference to the division of the muscles and tendons, he divides first the dorsal tendons along the line of incision, then the plantar muscles, similarly, dissecting the latter flap back by keeping close to the bones. He then disarticulates as for Chopart's amputation. Then he detaches the periosteum from the calcaneum, as high up as the

[1] Etude sur l'Amputation de Chopart. Par le Dr. S. Duchamp. Paris, Baillière et Fils. 1879.

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level of the sustentaculum, and saws through the bone horizontally from the inner side immediately below that process. This being done, he rounds off the projecting anterior angle of the bone. The two plantar arteries and the dorsalis pedis have to be twisted or tied, and he advises the operator to seek the posterior tibial nerve in the inner flap and remove it as high as possible, so as to avoid subsequent neuroma, which proves so troublesome after Chopart's amputation. After carefully closing the wound, and placing a drainage-tube through it, he immobilizes the stump by means of a silicate bandage, which extends to the knee.

The incision, according to the author, resembles the inner plantar flap adopted by Jules Roux in tibio-tarsal disarticulation, but the whole operation appears to us rather a modified and much improved subastragalar amputation. The horizontal section of the calcaneum has a marked advantage over the subastragalar; for it not only preserves a greater length of limb, but places the stump in better static condition. The astragalus has its lower surface oblique, being directed downwards and forwards, and there would therefore follow after a subastragalar amputation a tilting of the astragalus and a dragging upon the ligaments of the tibio-tarsal articulation. Besides this, the base of support is larger after section of the calcaneum, whence greater solidity in such a case. Lastly, after subastragalar amputation the astragalus is no longer connected with muscles and tendons, but with the section of the calcaneum the tendo Achillis is preserved, and the lateral tendons being in contact with the detached periosteum there is as much freedom of movement as after Chopart's amputation, without the inconveniences of that operation, seeing that the equilibrium of the stump is secured.

The new operation has a further advantage over Chopart's in requiring less plantar flap, and also in making it possible for the operator to see the condition of the calcaneum; and this is undoubtedly of considerable importance, especially in cases requiring amputation for disease, although certainly the astragalus is often affected earlier than the larger bone. If the calcaneum be too much diseased, then a subastragalar or higher amputation can be immediately performed. The author makes the following experiment upon the dead subject. If the cut surface of the calcaneum be applied to the horziontal plane of a table, and strong vertical pressure be applied on the tibia from above, no movement is seen at the sides of the remaining bones. If, in this position, the ankle be uncovered, it is possible to divide one by one all the ligaments without producing any tendency to displacement of the bones. One may even separate completely the tibia from the astragalus left on the table, then replace the tibia in its normal position, and make vertical pressure upon it without any tendency for the tibia and astragalus to become displaced. The only movement one can find is a slight gliding downwards and inwards of the head of the astragalus, but the soft parts, which are thick here, prevent any displacement of the astragalus.

The operation has not yet been performed on the living subject, but we are glad to give publicity to the proposal of M. Leon Tripier. The subastragalar amputation is one which might with advantage be more practised than it is, as certainly affording better prospect to a working man than Chopart's operation; and in two which the reporter had under his hands, the results were in every way good. But the advantages of M. Leon Tripier's operation appear likely to make this a recognized and valuable addition to the surgery of the foot.—*London Med. Record*, April 15, 1880

Loose Bodies in Joints.

Professor H. FISCHER, of Breslau, has recently published (*Deutsche Zeitschrift für Chirurgie*, Band xii. Heft 4, 5) the results of some inquiries as to the origin of articular loose bodies (*Gelenkmause*). Although the histology of such

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bodies had been thoroughly investigated by Virchow, and many surgical authors had discussed their diagnosis and treatment, very little had been done with respect to their etiology.

The author deals first with loose bodies in healthy joints. These are invariably the result of injury. Cases of this kind are not of frequent occurrence. The joint usually affected is the knee. A loose body may be produced through injury in various ways. A portion of articular cartilage may be torn away, and set free in the joint. Many surgeons hold that loose bodies are very frequently, if not always, produced in this manner. The author records an instance of a loose body appearing in the left knee shortly after an injury to this joint. The body was removed by operation, and found to be composed of articular cartilage. An osseous portion of an epiphysis may likewise be set free through injury, so as to form a loose body. This event is much less frequent than the separation of a portion of articular cartilage. To the ten cases that had been previously recorded, the author adds one from his own practice, in which, after the death of the patient from severe injuries to the head and liver with contusion of the left elbow, a detached piece of the olecranon was found as a loose body in this joint.

Since it cannot be doubted that a loose body may be produced through the breaking away of a cartilaginous or an osseous portion from the articular extremity of a bone, such an event might be fairly assumed in clinical practice when, in the first place, the development of the loose body can be referred to a decided and severe injury followed immediately by considerable disturbance of function, and subsequently by symptoms of loose body in the joint; when, in the second place, it can be made out that before the injury the joint had been sound and capable of performing all its functions; when, finally, the loose body, removed by operation, resembles in its anatomical and histological characters such a piece of cartilage or bone as might have been broken away and set free in the affected joint.

John Hunter held the view that the formation of a floating articular body is usually preceded by hemorrhage into the joint, and that the body itself is a mass of hardened and calcified coagulum. It has been pointed out by Virchow that many articular loose bodies indicate, in their structure, some such mode of formation as this, and are really composed of coagulated portions of extravasated or exuded fluid. According to Professor Fischer, who has observed three instances of this kind, the loose bodies formed from coagulated blood and fibrin are not permanent growths. They seldom become incrusted, and usually, after having existed for some few months, and having caused the common articular disturbances, spontaneously disappear.

That a large foreign body, as, for example, a bullet, may after penetrating a joint, remain there without causing any inflammatory mischief, has been proved by an observation by Volkmann. This, however, is a very rare event, as such a body usually sets up much irritation and reaction, and demands prompt removal. Small foreign bodies may penetrate into the osseous or cartilaginous structures of a joint, and become encapsuled. In a case reported by Mr. Shaw, a portion of a needle formed the nucleus of a floating body of cartilage that was removed from the knee of a young woman. Professor Fischer mentions an instance in which a small portion of a saw used in Ogston's operation was broken off, and remained in the knee-joint without setting up any irritation.

The second group of articular loose bodies comprises all such as are found in the interior of diseased joints, being either products of inflammation or the results of changes in such products. As was first pointed out by Ambroise Paré, these loose bodies may be formed in cases of hydrops articuli through partial coagulation of the accumulated synovial fluid. In an articular affection described by

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Volkmann under the designation of *hydrops fibrinosus articuli*, the affected joint is found to be filled with floating bodies of different sizes, many of which are supposed to be pure concretions. This affection has almost invariably been observed in the knee. One case, however, is recorded by Professor Fischer, in which the wrist was the affected joint. In an instance of this disease observed by Cruveilhier, the floating bodies had been regarded as hydatids. Loose articular bodies may be formed either through direct osseous transformation of the synovial membrane, or, without the joint, in the fibrous portion of the capsule. The formation of floating bodies through conversion of portions of the synovial membrane into cartilage or bone is of not unfrequent occurrence, especially in joints affected with chronic *arthritis deformans*. Laennec was the first to point out that such bodies may also be developed external to an articulation, and that they gradually grow inwards and towards the interior of the capsule, becoming enveloped in a prolongation of the synovial membrane. Finally, they may be broken off in some movement of the limb, and then become free in the articular cavity. The floating bodies thus developed present a characteristic form and structure. They are usually biconvex, one surface being formed of very hard bone, the other surface of hyaline cartilage. The affected joint presents very little of other change, save an increase in the amount of synovia.

Rokitansky first showed that loose bodies might be formed in diseased joints through over-growth and pathological metamorphoses of synovial tufts. It is well known that enlargement of these tufts frequently occurs in association with inflammatory changes in a joint. Cartilage-cells are formed in the swollen and knobbed processes of synovial membrane, which cells form firstly a chondroma, and subsequently become calcified or form bone. A growth of this kind may, like one produced in or external to the synovial membrane, become detached and set free in the joint. Rokitansky's views as to this mode of origin of loose bodies have been supported by Luschka and Virchow. The loose bodies thus produced have each usually the shape of a bean or a kidney, and present three convex surfaces and one short concave surface; they are smooth, firm, and elastic, and vary between the size of a small bean and that of a walnut. Each body is composed mainly of hyaline cartilage, with a few dry spots of calcification and small deposits of porous bone; the cortical portion presents fibro-cartilage. In some rare cases there is a small irregularly shaped cavity in the centre of the loose body, which cavity is filled by viscid synovia-like fluid. A loose body of this kind often presents a persistent stalk, or, more frequently, a trace of such. The body, when dried, shrinks into a small shapeless mass with uneven surfaces. The development of the loose bodies from tufts of synovial membrane is usually preceded by some inflammatory affection of the joint that is associated with intra-articular effusion of fluid.

The final variety of loose articular body is that produced by the breaking away, into the cavity of a joint affected with chronic arthritis deformans, of a piece of degenerated or pathologically developed bone, or of an enchondrosis. This form is rarely met with. The loose body thus produced, though usually quite free, is seldom observed during the life of the patient, in consequence of its symptoms being obscured by those of the chronic inflammatory condition of the joint. Such specimens as have been described had been found during *post-mortem* examination. The growth may consist either of true bone covered by a layer, more or less thick, of cartilage, or of cartilage studded with osseous deposits. The loose body thus formed has a very irregular form, is usually large, and often presents a distinct trace of fracture on one of its surfaces or margins. In some very rare instances, the broken off piece of bone or cartilage remains in contact with its former point of attachment, and becomes loosely connected with this by means

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of a kind of false joint. The author describes two pathological instances of this condition.

The treatment of loose bodies in joints, Professor Fischer states in concluding his article, has, through the grand and inestimable reformation effected in surgery by the antiseptic method, attained a final solution. Whilst formerly the various methods of operation were anxiously compared and considered, at the present day no surgeon hesitates to prefer over all other proceedings that of incision into the affected joint, and immediate extraction of the loose body, under antiseptic precautions. Professor Fischer operates in such cases without the use of the spray, but is careful to cleanse with solution of carbolic acid the seat of the operation and all the required instruments, and in most instances treats the joint with Lister's dressings. The joint is not washed out and is not drained; the wound is closed by suture. M. Lucas-Championnière has reported a case in which the joint was washed out with a five per cent. solution of carbolic acid, and then drained. No marked local or general reaction followed this practice. Professor Fischer thinks that injection and drainage are unnecessary in this operation, since the instruments used hardly reach the interior of the joint. No serious local or general symptoms have followed the operation in any of the author's cases; and in all, with but one exception, the joint remained movable and capable of performing all its functions. In most of the cases, some swelling and tenderness of the joint were noted on the third day. These phenomena usually disappeared in the course of a few days, either spontaneously or after the removal of the sutures, and a free discharge of secretion from the wound. The average duration of such treatment is one month. The surgeon, Prof. Fischer remarks, should always bear in mind the caution given by M. Tillaux against rashly making an opening into the articulation of the knee; but, with the brilliant results of Lister's method, it is hardly necessary to warn the patient that the removal of a loose body from this joint is a very serious operation. Diseased joints tolerate operative interference much better and more readily than joints that are quite sound.—*London Med. Record*, April 15, 1880.

Midwifery and Gynæcology.

The Administration of Ergot in Labour.

Dr. Glynn Whittle (*Dublin Journ. of Med. Sci.*, Feb. 1880) thinks that there is no doubt that ergot judiciously administered will often save a lying-in woman from the necessity of a forceps delivery. If there is reason to fear post-partum hemorrhage, ergot should always be given before the child is born. The fifteen- to thirty-minim range of the Pharmacopœial liquid extract is practically useless, but there is a limit to the dose which it is desirable to give. Two fluidrachms may be mentioned as a maximum, but occasionally it is justifiable to repeat this quantity. Dr. Whittle also lays down the following rule in regard to the administration of ergot. Never administer ergot until the labour is so far advanced that it could, if necessary, be easily finished with the forceps. In cases where tonic uterine contraction follows, threatening the life of the child, but not terminating the labour, recourse may then be had to the forceps. If the placenta happens to be morbidly adherent, the danger of the complication may be greatly augmented by post-partum increased uterine contraction, due to the influence of ergot, and of such a case Dr. Whittle quotes an instance which occurred in his own practice.—*Practitioner*, May, 1880.

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On the Alleged Dangers of Intra-uterine Injections of Perchloride of Iron in Cases of Post-partum Hemorrhage.

Dr. FREDERICK POLLARD, Senior Assistant-Physician to the Liverpool Infirmary for Children, has analyzed (*British Med. Journal*, April 24 and May 1, 1880) all the British cases of death following one injection of solutions of perchloride of iron into the uterus for primary post-partum hemorrhage which have been reported in the last ten or twelve years. He finds that puerperal fever is not one of the dangers to be apprehended from the use of the perchloride. But there are two accidents which apparently may be caused by the injection. One is the forcing of some of the fluid along the Fallopian tubes to the peritoneal cavity, causing severe pain and fatal shock, which probably (though not certainly) occurred in one reported case (Dr. Bantock's). The other is the entrance of the ferruginous solution into the uterine veins, causing phlegmasia dolens, or even giving rise to cardiac or pulmonary embolism and sudden death. This accident may have been the cause of death in three of the cases described; but there is no doubt that it can with almost complete certainty be avoided; firstly, by being most careful to keep open the cervix with the fingers, so as to allow the free egress of the fluid injected; secondly, by injecting very slowly and gently, allowing the solution to trickle down the sides of the uterus, and by avoiding all unnecessary force. To attain this end, it is desirable to employ a delivery-tube, which, instead of having one large terminal aperture, has a number of small lateral ones, so as to send a coarse spray rather than a full stream against the interior of the uterus; and attention to these precautions will probable reduce the risks of the operation to a minimum.

But even if these dangers were greater than they are, we should not, in his opinion, be justified in giving up the operation altogether. It has undoubtedly saved many lives which were fast ebbing away, when nothing else would stay the perilous flux. If we are to discard every operation which is itself sometimes fatal, what would become of ovariotomy, lithotomy, or amputation of the breast? A woman flooding to death is in far more immediate peril than are those for whom the operations just named are performed. Then why should she be denied a remedy, which has saved many women's lives, all other means having failed, because it may not be absolutely free from danger? Dr. Pollard believes that every practitioner ought to carry this, or some equally efficient styptic (if such there be), to every case of midwifery to which he is summoned. This conviction has been forced upon him by the perusal of some of those terrible cases where life has rapidly ebbed away before there was time to fetch any assistance, or any remedies beyond what the attendant had with him.

Dr. Pollard's experience of the operation, though not extensive, has been altogether favourable. He has used it in cases where injections both of hot water and of vinegar had failed, and where to all appearance the patients would inevitably have died without the iron.

He says, "in conclusion, then, I believe that there are some cases of *post-partum* hemorrhage of so intractable a character that the injection of a solution of the perchloride of iron into the uterus affords the only chance of saving the patient's life; and for this reason I consider that, of all the numerous benefits which Dr. Barnes has conferred upon obstetric science and practice, not the least important is the introduction of the method of treatment whose alleged dangers I have in this paper endeavoured to estimate."

Roseola Uterina.

At a recent meeting of the Obstetrical Society of Dublin (*British Med. Journal*, Feb. 14, 1880), Dr. KIDD read a paper on this disease, which, though by no

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means unfrequent, had never, as far as he could learn, been described in books. The disease occurred most frequently in patients in childbed, but also followed small operations on the uteri of women who had never been pregnant. He thought it occurred in about three per cent. of all the midwifery cases he had attended. About the third or fourth day after delivery, the patient complained that the skin of the abdomen was irritable and itchy, and, on examining it, an eruption was found very similar to that of scarlatina; next day, the axillæ became affected in a similar way; thence it extended over the chest and neck, but not affecting the face, and down the arms to the hands. The thighs, legs, and back became also covered. During all this time there was no constitutional disturbance, no fever; the pulse and temperature, tonsils and appetite, milk and lochia remained normal. On the second or third day after its first appearance it began to disappear, fading first in the places last affected. Dr. Kidd considered that the erythema was due to nervous derangement, and explained the phenomena on that hypothesis. The nerves supplying the internal surface of the uterus were at pregnancy enlarged; the long-continued irritation of those exposed nerves (after delivery) exhausted the centres with which they were connected, and hence the vaso-motor nerves proceeding from those centres were paralyzed for the time being; the arteries controlled by them relaxed, and allowed an excess of blood to the capillaries of the skin, hence redness and erythema. As soon as the irritation of the peripheral nerves ceased, the centre recovered, and the vaso-motor restraint again contracted the capillaries, and the erythema disappeared without any constitutional disturbance.

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Indications for Treatment of Versions and Flexions of the Uterus.

B. S. SCHULTZE remarks (*Archiv für Gynæk.*, Bd. xv. Heft ii. 1879) that the views of authorities upon the mechanical treatment of alterations in the position of the uterus differ as much now as they did thirty or forty years ago. He recapitulates his views as to the importance of the folds of Douglas in conditioning the occurrence of forward or backward displacement. Shortening of these folds from inflammation pulls the cervix backwards and upwards, and so exposes the posterior aspect of the body of the uterus to the intra-abdominal pressure, which, driving the body downwards, produces anteflexion. Conversely, relaxation of the folds of Douglas allows the cervix to sink downwards and forwards, and the intra-abdominal pressure to fall on the anterior surface of the uterine body, and hence retroflexion. If the uterus is more rigid than usual, either through past or present metritis, then anteversion or retroversion is the result respectively, instead of the corresponding flexion. This he holds to be the etiology of the great majority of cases. Occasionally he thinks anteversion or anteflexion arises from peritoneal adhesions between the fundus uteri and the bladder, and retroversion or flexion from parametric fixation of the cervix uteri in front. He does not hold, like many authors, flexion to be a source of more suffering than version. The symptoms especially credited to flexion are dysmenorrhœa and sterility, which are attributed to narrowing of the internal os, and consequent hindrance to the exit of blood and the entry of semen. There is no doubt that the acute flexion of the infantile type often coexists with infantile narrowness of the canal and the orifices; also that with a sharp flexion uterine catarrh, especially in women who have ceased to menstruate, favours the occurrence of stenosis and obliteration of the os internum. But in the majority of cases of flexion of the uterus during sexual life the diagnosis of stenosis only means that there is difficulty in getting a too rigid sound past the point of flexion. Flexion of the uterus does not *per se* produce stenosis. As to sterility, in the majority of women in whom the cause of it is on the male side, the uterus is

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anteflexed, because in the majority of healthy women the uterus lies in that position. He does not think flexions without effect in producing sterility, but that sterility in cases of flexion is most often due to coexisting complications, and is only seldom a mechanical result. In cases of shortening of the folds of Douglas, when the inflammation has entirely passed off, and not the slightest tenderness of the part remains, the author has treated the resulting anteflexion by methodical stretching of the folds, by pulling the vaginal portion downwards and forwards. But this indication can seldom be carried out, because the part in question usually is sensitive, and such traction may then rekindle inflammation. In such cases, on the contrary, great relief may be obtained by pushing the vaginal portion yet further backwards, by means of a figure-of-8-shaped pessary. By this the anteflexion is increased, but the folds of Douglas are protected from further tension, and thus not only are the pains relieved, but the disappearance of inflammatory processes is favoured. Reposition of the displaced uterus by the finger or sound he looks upon as useless, for the flexion returns when the replacing force is removed. Vaginal pessaries he thinks only give relief by fixing the cervix and diminishing the tension of Douglas's folds. Intra-uterine stems certainly straighten the uterus, but the position in which they keep the uterus is as far removed from the normal one as is an anteflexion. That they have been followed by good results he attributes to treatment of other kinds simultaneously carried out, and possibly to contraction of the uterus excited by the presence of a foreign body. In cases of displacement the author recommends treatment of the accompanying metritis and parametritis. These conditions are often caused and kept up by accompanying endometritis, and the retention of catarrhal secretions in the uterine cavity. This is best treated by dilatation of the cervix, and the washing out of the uterine cavity with a 2 per cent. solution of carbolic acid. The result of treatment on these principles is, that the symptoms will disappear, even though the shape of the uterus be unaltered, menstruation will become painless, and the patient will conceive with an acutely anteflexed uterus. With retroversion and retroflexion it is quite different. Here the displacement is usually not the result but the cause of the morbid phenomena, which must be treated by mechanically raising the uterus to its normal position. In the beginning it may be enough simply to use means which excite uterine contraction. But if the displacement be pronounced, the uterus must be replaced by bimanual manipulation, and kept in its proper position by a pessary. If reposition in this manner be difficult, he holds it better to anæsthetize the patient, by which we can not only replace the uterus, but accurately ascertain the condition of the pelvic organ, than to replace the uterus by means of the sound. The latter proceeding is often possible, but much harm may be done by it. No pessary can bring the uterus into its normal position. By manual reposition under anæsthesia, it may be possible to break down adhesions which retained the uterus in its abnormal position. He has done this without bad results. The pessary required is one which shall draw the cervix backwards, which, being done, the abdominal pressure will keep the uterus in a state of anteversion. He uses one of the shape of a figure 8, the cervix being embraced and carried backwards by the posterior ring, and one like a Hodge, the anterior end of which, instead of curving downwards, is carried so far upwards and backwards, and is so widened, that it presses back the cervix. He uses the latter when the vaginal walls have not sufficient tone to retain the former. The bowels must be kept regular; the vagina must be frequently washed out, and over-filling of the bladder must be avoided. Nutrition must be improved; the best general tonic, where possible, being sea bathing. While wearing the pessary, pregnancy often takes place, which is a favourable occurrence for the patient, for with care during the lying-in the recur-

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rence of the displacement may be prevented. The inflammatory complications of the retroverted and retroflexed uterus require no special treatment, the correction of the displacement will cause them to disappear. Backward displacements of the uterus are those in which mechanical treatment is followed by the most strikingly beneficial results. He has used intra-uterine stems in the treatment of retroflexion, but has obtained better results without them. He believes the time is not far off when his hope, expressed seven years ago, that these instruments may come to be seen in historical collections only, will be fulfilled.—*Obstetrical Journal of Great Britain*, April, 1880.

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Removal of Uterine Fibroids by Laparotomy.

At a late meeting of the Obstetrical Society of London (*Lancet*, May 8, 1880), Mr. KNOWSLEY THORNTON raised the question of the removal of uterine fibroids by laparotomy. He not only regarded the removal of uterine fibroids by abdominal section as justifiable in certain cases, but believed that the future of these operations would be in no way second to that of ovariotomy. The objections to operating by laparotomy for fibroids were—(1) less fatality of fibroids when left alone, as compared with ovarian tumours; (2) the greater frequency of their relief or cure by medical, expectant, or milder surgical treatment; (3) the greater danger of the operations for their removal as compared with ovariotomy. He pointed out how often dangerous operations were undertaken for the relief of deformity, and that operations of convenience were now much more safe and justifiable, thanks to Professor Lister's method. The following proposition was advanced for discussion: Is it justifiable to make an exploratory operation with perfect antiseptic precautions in any case of fibroid tumour of the uterus, which has resisted medical treatment, and which is either endangering life or preventing the subject of it from fulfilling the ordinary duties of her sex and position? The great difficulty lies in the present uncertainty of the diagnosis between the varieties of uterine fibroids. Complete records of two cases were then given, the first a complete hysterectomy, with removal of both ovaries; the second, removal of sessile fibroids and one ovary without opening the uterine cavity. Both patients recovered without fever and without any untoward symptom. Three classes of cases were defined, each having a different amount of difficulty and risk. The author thought that the term hysterotomy should be given up, and that of hysterectomy adopted, but limited to the complete cases, in which the whole of the supra-vaginal part of the uterus was removed.

Dr. BANTOCK related two cases in which he had removed fibroid tumours. In the first a small tumour weighing two pounds was removed with a part of the uterus. The pedicle formed by the uterine body was ligatured and dropped. Death occurred from septicæmia, due to slight bleeding from the stump, with the establishment of an open canal through the cervix. In the second, an external fibroid weighing twelve pounds was removed, and the pedicle kept external. The patient did well.

Mr. DORAN said that in the fatal case mentioned by Dr. Bantock he had found a deep circular ulcer in the cervical canal corresponding to the ligature. He had examined also a fatal case under Mr. Thornton's care, in which the pedicle of a large fibroid outgrowth had been secured by the clamp. A slough had extended from the stump to the uterus.

Dr. PLAYFAIR believed that the operation had a great future before it, but his experience would not induce him to agree with the statement in Dr. Godson's paper, that it was not more dangerous than ovariotomy. Moreover, a patient

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with ovarian tumour rarely lived if left to herself; a person with fibroid rarely died.

Dr. MATTHEWS DUNCAN thought it demonstrated that the operation had a place in legitimate surgery. With increased knowledge of the natural history of fibroids he believed that the use of the operation would be extended beyond what many timid men at present imagined. Such tumours were liable to dangerous diseases and degenerations, liable to induce peritonitis, liable even to induce cancer, especially of the peritoneum. The paramount danger arose from the bleeding which accompanied them and produced a fatal result, he believed, more frequently than was generally supposed.

Mr. THORNTON, in reply, deprecated the fastening of the pedicle up to the abdominal wall as a dangerous practice. He reminded Dr. Playfair that many ovariotomies were incomparably more difficult than the removal of a pedunculated subperitoneal fibroid. He had now operated for uterine tumours twelve times; in ten cases the operations were completed, in two they were not. Four of the former died, and one of the latter. In three complete hysterectomies with removal of both ovaries, he had one death; one hysterectomy with removal of one ovary, death from hemorrhage. In three removals of fibrous cystic tumours, all recovered.

Medical Jurisprudence and Toxicology.

Case of Poisoning from Carbolic Acid used Surgically.

In this paper (*Gazetta degli Ospitali*, February, 1880) DE AGOSTINI reviews at length a number of cases collected from various sources, demonstrating the toxic influence which carbolic acid occasionally exercises when applied as a dressing to large open wounds. He records a case which occurred lately in his practice, and which illustrates very clearly the bad effects which may follow the use of this agent. The patient came under the author's care, suffering from perinephritis, for which, the presence of pus having been diagnosed, a large incision exposing the renal tissues was made in the sacro-lumbar region. A drainage-tube was inserted, and through it the wound was washed out very freely with a one per cent. solution of carbolic acid. The incision was further filled with lint steeped in a two per cent solution of the acid, and the whole covered over with wadding moistened with a similar solution. Owing to the discharge being very copious, the dressings were renewed daily, and the washing out of the parts very thoroughly performed. In spite, however, of the fact that the local appearances were most satisfactory, the patient's general condition did not continue to improve as it had done for the first ten days after the operation. Periodical attacks of fever occurred daily, with a temperature of 39.2 deg. Cent. (102.5 Fahr.), and were followed on one occasion by a violent attack of dyspnœa, with expectoration of a litre of serous fluid, and great prostration. The urine on one occasion was of a dark olive tint. Symptoms of hydrothorax appeared, and a preliminary puncture revealed the existence of fluid, which, however, disappeared within twenty-four hours. Meanwhile, the general condition of the patient becoming steadily worse, and the temperature being always higher after dressing of the wound, it was determined to substitute salicylic for carbolic acid. The effect of the change was remarkable. Within a few hours the temperature fell to 36.4 deg. (97.5 Fah.) and continued unchanged till convalescence, which took place rapidly; all symptoms of fever likewise disappearing. The

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urine showed only in a very slight degree the suspicious dark colour of carbolic urine, but there was a remarkable deficiency of the sulphates. The author believes that carbolic acid intoxication may cause symptoms of collapse, pulmonary œdema, pleurisy, and pneumonia, with a remittent or intermittent type of fever, proving ultimately fatal. The absence or marked diminution of the sulphates in the urine is the most reliable symptom of carbolic acid poisoning, which, as a rule, will be more likely to occur in those exhausted by chronic affections. The chief danger would seem to be in washing out large cavities such as the bladder or pleura, or large superficial wounds. Though such intoxication is rare, its possibility should always be borne in mind, as also the fact that in any given case there may be an idiosyncrasy rendering the patient intolerant of even the smallest quantity of the acid.—*London Med. Record*, April 15, 1880.

Hygiene.

Diphtheria and Sewer Gas.

The influence of sewer gas in the production of diphtheria has not always received the attention it deserves; and it seems, therefore, important to chronicle well-authenticated cases which seem to have no other cause than the introduction of drain-air into the houses invaded by the disease. Two such cases have recently been recorded as occurring at Newquay, in Cornwall, by Dr. BALLARD of the Local Government Board, whose caution as an etiologist is well known. It appears that a new tenant commenced one August to occupy a detached and almost new house, the water-closet of which was drained into a covered and unventilated cesspool in the garden. This house had been previously occupied for a short time by a family who had been quite free from illness while residing there. In one of the bed-rooms there was an open rain-water cistern, having an overflow or waste pipe which discharged itself into one of the drains connected with the cesspool. The only trap it had was a bell-trap on the top of the pipe, which, when subsequently examined, was found to be dry. From this pipe offensive smells had been noticed as proceeding for some time, and from the room they more or less pervaded the house. In the room where the cistern was situated one child slept alone; another child slept with a nurse in a different room. On January 2d the child who slept in the room containing the cistern was attacked with diphtheria and died. No one else in the house suffered. The other fatal case referred to occurred in a good house, which was occupied by a family of whom eight children with the mother slept in a large attic room, beneath the floor of which was a rain-water cistern. The waste pipe of this cistern was trapped with a bell-trap, and it terminated in the soil-pipe of the water-closet. All the children who slept in this room had attacks of diphtheria of varying degrees of severity, and one of them died. On subsequent examination of the bell-trap, it was found to be dilapidated, dry, and quite ineffective to prevent the rise of foul air from the waste pipe and through the floor into the attic.—*British Med. Journal*, April 24, 1880.

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MEDICAL NEWS.

National Convention of 1880 *for Revising the Pharmacopœia.*

The Convention for the sixth decennial revision of the Pharmacopœia of the United States, in accordance with the call of Dr. James M. Morgan, Assistant Secretary, and last surviving officer of the Convention of 1870, met in Washington on Wednesday, May 5th, and was called to order at 12 M. by Dr. Morgan, of Washington.

On motion, Dr. Morgan was elected temporary Chairman, and Dr. D. Webster Prentiss, of Washington, temporary Secretary.

The Chair appointed the following Committee on Credentials: Dr. W. S. W. Ruschenberger, Mr. A. B. Taylor, and Mr. W. S. Thompson. After a recess of fifteen minutes, the Committee reported that some of the bodies which had sent delegates did not come within the literal interpretation of the call for the Convention, and with this explanation it submitted the list of credentials received for the action of the Convention.

Objection having been made to the admission of the delegations which were not within the letter of the call, Dr. Busey, of Washington, in order to perfect the organization of the Convention without delay, moved that the delegates from the bodies which were specifically included in the call for the Convention, to wit, "incorporated State medical societies, incorporated medical colleges, incorporated colleges of physicians and surgeons, and incorporated colleges of pharmacy," and concerning whose status there was no question, be admitted. Adopted.

Dr. Busey also moved that the delegates from the Medical Departments of the Army, of the Navy, and of the Marine-Hospital Service be admitted. Adopted.

Dr. Busey also moved that the delegates from the Medical Society of the District of Columbia, which is incorporated, but not technically a "State medical society," be admitted. Adopted.

Mr. Charles Rice, of New York, objected to the admission of the delegation from the Pennsylvania College of Pharmacy, as it was not incorporated, and he stated that he had a letter from the Secretary of the Commonwealth of Pennsylvania to that effect. On behalf of the College, it was stated that it was regularly incorporated, and its delegation offered an opportunity to inspect its charter, with the seal of the State attached, to any member of the Convention who desired to satisfy himself upon this point. The objection then fell.

Objection was also made to the admission of the delegation from the Philadelphia County Medical Society. Dr. Robert E. Rogers, of Philadelphia, moved that the delegates from the Philadelphia County Medical Society be admitted to the Convention. This motion gave rise to considerable discussion. Strenuous objection to their admission was made on the ground that the Society did not come within the letter of the call for the Convention; and it was urged that, had it been known that these delegates would be admitted, the New York County Medical Society, as well as other county medical societies, would have sent delegations to the Convention. On behalf of the Philadelphia County Medical Society, it was stated that it was an incorporated medical society; that more than a year ago it had written to Dr. Morgan, the only

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surviving officer of the previous convention, asking if it were entitled to representation in this convention, to which Dr. Morgan replied that at the Convention of 1870 delegates had been admitted from similar bodies which did not come within the literal reading of the call, and that, from precedent, he believed that the Society's delegates were entitled to admission; that thereupon the Society had appointed a Committee on Revision of the Pharmacopœia, which had prepared a lengthy and carefully considered report which the Society's delegates were instructed to present to the Convention. Dr. Rogers's motion was carried, and, a division having been called, the vote was declared to be thirty-five in the affirmative and twenty-two in the negative.

On motion, a Committee on Nomination of Permanent Officers was appointed, consisting of one member from each body entitled to representation in the Convention, each delegation to name its own member of the Committee, and the Convention then took a recess until 3 P. M.

Upon the reassembling of the Convention, Dr. J. F. Judge, of Cincinnati, on behalf of the Committee on Nominations, presented the following report: For President, Robert Amory, M.D., of Brookline, Mass.; for Vice-Presidents, Dr. S. C. Busey, of Washington, and Mr. P. W. Bedford, of New York; for Secretary, Dr. F. A. Castle, of New York; for Assistant Secretary, Dr. C. H. A. Kleinschmidt, of Washington, D. C. On motion of Dr. Rogers, of Philadelphia, the report was accepted and adopted.

Dr. Amory then assumed the chair, and thanked the Convention for the honour it had conferred upon him.

On motion of Prof. Maisch, of Philadelphia, Dr. E. R. Squibb, of New York, was elected a member of the Convention.

Reports on the Revision of the Pharmacopœia were received from the American Pharmaceutical Association, Massachusetts Medical Society, College of Physicians of Philadelphia, Philadelphia College of Pharmacy, Philadelphia County Medical Society, Pennsylvania Pharmaceutical Association, Maryland College of Pharmacy, National Medical College of Washington, National College of Pharmacy of Washington, and the Louisville College of Pharmacy. Referred to the Committee on Revision to be hereafter appointed.

On motion of Prof. Maisch, it was resolved,

That the Committee on Nominations be instructed to nominate a committee of revision and publication, consisting of twenty-five members; and to report a plan for revising and publishing the Pharmacopœia, and to make provision for the revision of the United States Pharmacopœia in the future.

May 6th. The Convention met at 10 P. M. to receive the report of the Committee on Nominations. The plan for the revision of the Pharmacopœia presented by the Committee was adopted with slight amendment, and is practically the plan proposed by the Committee of the American Pharmaceutical Association. It was decided not to admit therapeutical considerations, statements of doses, or tables, or antidotes to poisons; that the formulæ should be in parts by weight, and should be constructed, when practicable, so that the end quantity of all finished products should be one hundred parts; and that the single alphabetical arrangement be adopted.

The following Committee on Revision and Publication was elected: Drs. Robert Amory, of Brookline, Mass.; F. A. Castle, of New York; D. L. Huntington, U. S. A.; B. F. Gibbs, U. S. N.; Laurence Johnson, of New York; J. F. Judge, of Cincinnati; H. G. Piffard, of New York; W. S. W. Ruschenberger, of Philadelphia; E. R. Squibb, of New York; E. S. Wood, of Boston; T. F. Wood, of Wilmington, N. C.; T. G. Wormley, of Philadelphia: and Messrs. Oscar Oldberg, U. S. Marine-Hospital Service; P. W. Bedford,

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of New York; C. Lewis Diehl, of Louisville; Louis Dohme, of Baltimore; Thomas Doliber, of Boston; John M. Maisch, of Philadelphia; G. F. H. Markoe, of Boston; H. B. Parsons, of Washington; J. P. Remington, of Philadelphia; Charles Rice, of New York; A. B. Taylor, of Philadelphia; W. S. Thompson, of Washington; O. A. Wall, of St. Louis.

The Committe on Revision and Publication was instructed to award the publication of the Pharmacopœia to the publishing house offering the best terms, the Committee to hold the copyright, the price of the work to be limited, and the book to be sold through the ordinary trade channels. The authority was also given to publish a supplement to the Pharmacopœia at the end of five years, or oftener if necessary. The Committee was authorized to fill all vacancies which may occur in its body, and to drop, by a vote of two-thirds of the Committee, any member who may neglect to perform the work which he had accepted, or who failed to attend five consecutive meetings of the Committee without valid excuse. The Committee was also empowered to employ expert labour.

It was ordered that the call for the next convention should include all incorporated medical and pharmaceutical societies, incorporated medical and pharmaceutical colleges, and the medical departments of the army, navy, and marine-hospital service of the United States.

The roll of the Convention was then called, and seventy-four delegates responded.

Dr. Hays, of Philadelphia, stated that the "College of Physicians and Surgeons in the City of New York," whose name appeared on the roll, was believed to be a society which had long since ceased to exist, and, therefore, not entitled to representation in the Convention, and he inquired of its delegation if it was an incorporated society which was now in actual existence; a reply was given in the affirmative, and the further consideration of the subject was laid upon the table.[1]

Dr. Hays also called attention to the fact that it was desirable and just that the New York Academy of Medicine should be represented in the Convention, and that, while it had a delegation present, it had not yet been formally admitted, either by any special motion or—as it was, like the Philadelphia County Medical Society, neither a State medical society nor a college of physicians—by the general resolution offered by Dr. Busey on the first day. Dr. Busey then moved, and Dr. Hays seconded it, that the delegation from the New York Academy of Medicine be admitted to the Convention, which was unanimously adopted.

The usual complimentary resolutions were then adopted, and the Convention, at 1.45 A. M. on May 7th, adjourned *sine die*.

The arrangements of the local Committee of Reception added much to the pleasure of the visiting delegates. Receptions were held on the evening of the

[1] "The College of Physicians and Surgeons in the City of New York" (which should not be confounded with the well-known College of Physicians and Surgeons (Medical Dep't of Columbia Coll.), New York) does not appear in the New York Medico-Historical Society's Register, nor has it for many years past been represented in the New York State Society. Since the adjournment of the Convention it transpires that it is the New York County Medical Society under another name. (See Proceedings of the N. Y. County Medical Society in *Medical Record*, May 15, p. 551.) It is not apparent why the New York County Medical Society did not openly send its delegates under its own ancient name, with its honourable record, but, at an ordinary stated meeting, should have assumed for ten minutes another name, and thus, by a questionable procedure, disguised itself beyond recognition; nor why the statement, without qualification, was made in argument in the previous day's debate in opposition to the admission of the delegation from another county medical society, that the New York County Medical Society did not and would not send delegates to the Convention.

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5th at the Corcoran Art Gallery; on the afternoon of the 6th at the White House by the President; in the evening at the Naval Observatory by Admiral and Mrs. Rogers; and on the morning of the 7th an excursion to Mount Vernon, with a handsome collation on the boat, was tendered to the delegates and their ladies by the physicians of Washington.

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Typhoid Fever and Polluted Water.—Upwards of four hundred of the inhabitants of Perth have been suffering from attacks of low fever and diarrhœa, manifestly arising from the pollution of the water-supply. It appears that, while the water-pipes were under repair, a plug came out, and for a short time the water of the river Tay, contaminated with sewage and other city refuse, was allowed to flow into the town pipes. Although the influx lasted only a few minutes, it is calculated that as much as fifty thousand gallons of the public supply were impregnated with noxious particles.—*British Med. Journal*, May 1, 1880.

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Use of Arsenic in Manufactured Articles for Domestic Use.—The Council of the Society of Arts, in consequence of the numerous cases of reputed poisoning by arsenical wall-papers and other articles in general use, have appointed a committee to inquire into the practicability of preventing the employment of arsenic in any processes by which it is allowed to remain in finished goods, and to obtain evidence as to the effect a total prohibition of the use of such processes, or the prohibition of the sale of articles produced thereby, would have upon various trades. This is a practical step towards the solution of a question involving large trade interests.—*British Med. Journal*, May 1, 1880.

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The Cartwright Endowment.—The late Benjamin Cartwright, Esq., of Newark, N. J., has bequeathed to the Alumni Association of the College of Physicians and Surgeons (Medical Department of Columbia College), New York, ten thousand dollars, with one-half of which to found a "Cartwright prize," for the best essay, containing original work, on some subject connected with the art of medicine or surgery, to be open only to the competition of the Alumni of the College. With the remaining five thousand dollars there is to be established a course of "Cartwright Lectures," to be under the control of the Alumni Association.

Dr. Roberts Bartholow, of Philadelphia, has accepted the invitation of the Councillors of the Alumni Association to deliver the first course of "Cartwright lectures" during the session of 1880–81.

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Meetings of Medical Societies.—The thirty-first annual meeting of the American Medical Association will be held at New York on Tuesday, June 1st, under the presidency of Dr. Lewis A. Sayre. The arrangements for the meeting are in charge of an efficient committee, of which Dr. T. Gaillard Thomas is Chairman.

The American Neurological Society will meet in the same city on the 15th of June.

The following State societies will hold their meetings this month:—

West Virginia Medical Society, at Parkersburg, June 2.

Massachusetts Medical Society, at Boston, June 9.

Minnesota Medical Society, at Albert Lea, June 15.

New Hampshire Medical Society, at Concord, June 15.

Ohio Medical Society, at Cleveland, June 15.

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Medical and Chirurgical Faculty of Maryland.—The eighty-second annual meeting of this body was held at Baltimore, April 13, 14, 15, 1880; Dr. S. C.

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Chew, of Baltimore, President, in the chair. The annual oration was delivered by Prof. John W. Mallet, of the University of Virginia. His subject was "The Claims of Science for its own Sake upon the Medical Profession."

The following officers were elected for the ensuing year: President, H. P. C. Wilson, M.D. Vice-Presidents, Drs. L. McLane Tiffany and G. Ellis Porter. Recording Secretary, Dr. Wilson G. Register.

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Louisiana State Medical Association held its third annual meeting in New Orleans on March 31st and April 1st and 2d; Dr. J. W. Dupree, President, in the chair. The following office-bearers were elected for the ensuing year: President, C. M. Smith, M.D., of St. Mary. Vice-Presidents, Drs. D. R. Fox, J. P. Davidson, P. S. Postell, A. A. Lyon, G. M. Brumby, O. P. Langworthy. Secretary, Dr. L. F. Salomon. The next meeting will be held at New Orleans, on the last Wednesday in March, 1881.

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Medical Society of the State of Tennessee.—The 47th annual session of this Society was convened at Knoxville on the 6th of April; Dr. E. M. Wight, of Chattanooga, President, in the chair. The following officers were elected for the ensuing year: President, B. B. Lenoir, M.D., of Lenoir's. Vice-Presidents, Drs. M. M. Alexander, of Knoxville, W. M. Clarke, of Nashville, and T. J. Tyner. The next meeting will be held at Nashville, on the first Tuesday in April, 1881.

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Medical Society of the State of California.—The tenth annual session of this Society was convened at San Francisco on the 21st of April; Dr. A. W. Saxe, of Santa Clara County, President, in the chair. The following officers were elected for the ensuing year: President, Dr. F. W. Todd, of Stockton. Vice-Presidents, Drs. G. G. Tyrrell, of Sacramento; G. W. Davis, of Chico; A. H. Agard, of Oakland; and C. A. Kirkpatrick, of San Mateo. Secretary, Wallace A. Briggs, of Sacramento. The next meeting will be held at San Francisco, on the third Wednesday in April, 1881.

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A Minister of Health.—It affords us sincere pleasure to record the fact that in the formation of the new British Ministry the President of the Local Government Board, upon whom it devolves to carry out the provisions of the Public Health Acts, has been assigned a seat in the Cabinet, thus making the health interests of the country an integral part of the ministerial policy, and insuring in fact what has long been promised in a figure of speech, a policy having for its maxim, *Sanitas sanitatum, omnia est sanitas.*

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The Lithophone.—At the meeting of the Académie de Médecine of March 30, Dr. LANGLEBERT presented a new instrument, made under his directions by MM. Mathieu Fils, for the diagnosis of vesical calculi. The instrument is composed of a small cylindro-conical drum of glazed pasteboard to the extremity of which an exploring sound is attached. Such is the resonant power of this apparatus that the smallest stroke, an insensible grazing of the beak of the sound upon a stone in the bladder, becomes greatly amplified, and resounds in the drum where it appears to be produced. The illusion is said to be complete, the bladder, seeming to be brought under the ear of the surgeon. It is needless to dwell on the utility of the lithophone for finding vesical calculi and small fragments after lithotrity. The instrument is figured in *Le Progrès Médical*, 3 Avril, 1880.

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German Pharmacopœia.—A commission for the revision of the German Pharmacopœia will meet next autumn, and it is expected that the new edition will be ready in 1881.

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A Hint to Schoolmasters.—It is a notorious fact that scarlet fever and other infectious diseases are constantly introduced into schools by pupils in whose homes are cases sick or convalescing from these diseases. With a view to preventing occurrences of this character, we note with pleasure that the principal of an English school has recently issued a circular to parents, with a view to prevent the attendance of those pupils who have been exposed in their families to any of the infectious diseases, and we commend his example to all in similar authority.

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Personal.—Princess Pauline, of Wurtemburg, has been recently married to Dr. Willim, of Breslau. It will be remembered that a princess of Holstein-Sonderburg, sister to Prince Christian, of Schleswig-Holstein, is the wife of Professor Esmarch, of Kiel.

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Literary Notes.

The last number of the *Bibliothek for Læger*, a prominent Danish medical journal, published at Copenhagen, has for its leading paper a careful and complete translation of Dr. S. W. Gross's elaborate and critical study of sarcoma of the long bones which originally appeared in the numbers of the *American Journal of the Medical Sciences* for July and October, 1879.

A work on the "Diagnosis of Diseases of the Spinal Cord," by Dr. Gowers, is announced by Churchill, of London.

Dr. J. Wickham Legg, of St. Bartholomew's Hospital, has just published, through Mr. H. K. Lewis, of London, a volume "On the Bile, Jaundice, and Bilious Diseases." Mr. Lewis has in press a treatise on "Dwelling-Houses, their Sanitary Construction and Arrangements," by Dr. Corfield, Professor of Hygiene in University College, London.

We have received the first number of the "Archives of Laryngology," a quarterly journal, edited by Dr. Louis Elsberg, in conjunction with Drs. J. Solis Cohen, Frederick I. Knight, and George M. Lefferts. It contains original articles, clinical notes, transactions of Laryngological Societies, Reviews, abstracts of laryngological literature, and notes and queries. The scope of the "Archives" embraces Human and Comparative Morphology and Physiology of the Throat, and Pathology and Therapeutics of Throat Diseases, in the widest signification of these terms, and the contents of its first number are of a high standard of merit, and the typographical appearance all that could be desired. It is published by G. P. Putnam's Sons, and deserves the support of all interested in its specialty.

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OBITUARY RECORD.—At London, on the 11th of April, aged 78, WILLIAM SHARPEY, M.D., LL.D., F.R.S.

Mr. Sharpey was born at Arbroath, in Scotland, on April 1, 1802. He studied at the University of Edinburgh, and in 1821 obtained the diploma of the Royal College of Surgeons of Edinburgh. The following winter he studied Clinical Medicine and Surgery in Paris, and in 1823 received the degree of M.D. from the University of Edinburgh. After practising for a while at Arbroath he proceeded to the continent and devoted himself to the study of anatomy and physiology. In 1831 he began his career as a teacher of anatomy as an extra-mural lecturer at Edinburgh, and five years later he was elected to the chair of anatomy and physiology in the University of London, as the successor of Dr. Jones Quain, which position he held until 1874. For years he held the enviable and unquestionable position of being the greatest teacher of anatomy and physiology in Great Britain. He was a contributor to the "Cyclopædia of Anatomy and Physiology," and one of the editors of Sharpey and Quain's Anatomy.

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THE

MEDICAL NEWS AND ABSTRACT.

VOL. XXXVIII. No. 7. JULY, 1880. WHOLE No. 451.

(For List of Contents see pp. 447-8.)

CLINICS.

Clinical Lectures.

ON THE SUMMER DISEASES OF THE SKIN, AND THEIR TREATMENT.

A CLINICAL LECTURE DELIVERED AT RUSH MEDICAL COLLEGE, CHICAGO, JUNE 4, 1880.

BY JAMES NEVINS HYDE, M.D.,
PROFESSOR OF SKIN AND VENEREAL DISEASES.

GENTLEMEN: I desire to describe this morning certain disorders of the skin occurring most frequently in this latitude during the season of summer, and to make some suggestions respecting their treatment. But it is proper to remark at the outset, that the occurrence of such disorders is not strictly confined to what we are accustomed to call the "heated term." With our artificial habits of life, a severe erythema may be induced by heat in midwinter equally with an attack of cholera morbus after the ingestion of unripe fruit. It is also true that there are disorders of the skin which seem to be greatly benefited by the advent of hot weather, and disappear then, to return with the early part of the ensuing season.

The title of our subject introduces us at once to questions of etiology. The summer disorders of the skin should be those influenced by solar heat, or by agencies which that heat arouses to activity. Yet ignorance, prejudice, and even the speculations of science still strive to show that these affections are real eruptions—"breakings out" upon the surface of the body of morbid humors in the fluids which circulate beneath. The woman who labours long over her washtub on a hot summer day and notices a rash upon the skin, still comes to the dispensary asking for something to "cleanse her blood." She, and those who agree with her, may be correct in their views, but, until they can demonstrate to us the exact nature of the supposed changes effected in the blood, you and I must be content with studying the more tangible sources of the diseases we have at present to consider.

Now, it is true that the inhabitants of tropical countries suffer rather more from skin diseases than do those who live in colder latitudes; but

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the difference is not so great as is commonly supposed. Certainly the vegetable parasites flourish best in high temperatures; but you will see more acne-sprinkled faces in London and New York than in Havana and St. Paul de Loanda. It is really the sudden changes from cold to heat which influence sensitive skins among Americans. In some parts of our country the temperature ranges annually through 150° F. It is the skin inured to the severe cold of our Northern winter which reacts pathologically beneath the rays of the summer sun. Under these circumstances, imperfectly anointed by its natural unguent, subjected to various external irritants, and hastily summoned to a profuse diaphoresis, it responds in a series of interesting phenomena.

The stimulating influence of heat, when applied to the surface of the body, is usually first announced by an increase in the quantity of the secretion poured out by the sudoriferous glands. This secretion is designed, as you know, to accomplish several ends; and among these is the reduction of the temperature of the body by evaporation. Although sensible and insensible perspiration are not in ordinary states irritating to the sound skin, they yet may prove so to the congested or inflamed skin; and that probability is immensely increased when the sweat is chemically altered and mingled with a foul-smelling sebum. You have seen a similar difference between the action of healthy and ammoniacal urine in contact with the integument. Suppose that we add to the concurrent effects of heat and moisture, the influence of friction. Friction upon the surface of the body, either by articles of clothing or contiguous portions of skin, not only stimulates the action of the glands, but also, as I have heretofore[1] shown, actually increases the temperature of the part to which it is applied. Let us now suppose that these three important agencies coöperate in the production of their effects upon an integument long uncleansed by ablution, supported by an abundant cushion of fat, and exposed in the adventures of active toil. We shall then have a picture of the most fruitful field for the study of the effects we have in view.

We should naturally look for these effects upon those parts of the surface most exposed to the sun's rays; those best supplied with large-sized glands; those most frequently in contact with similar parts or with the clothing; and those where the disposition of the latter or the postures of the body most favour the accumulation of secretions. Such parts are the uncovered face, wrists, and hands; the little pockets behind the ears; the folds beneath the chin and at the back of the neck; the hollows about the clavicles; the axillary and ano-genital regions; the interscapular and interdigital spaces; the vulvo-femoral and the scroto-femoral angles; the faces of the thighs which are in contact superiorly; the flexures of the joints; and the larger or smaller spaces covered by the breast of the female as it lies upon the surface of the thorax. The symmetrical distribution of disease in some of these regions is a curious and beautiful illustration of the causes operating to produce it. Thus it is not rare to see an erythematous blush sweeping from the perineum down upon the inner face of one thigh, its margin sufficiently distinct to be traced with a pen, and the whole exactly reproduced upon the corresponding face of the other limb.

But there are other causes which we must not fail to consider as operative in the summer season. Many of the inhabitants of our larger cities

[1] On the Non-Venereal Cutaneous Affections, etc. Boston Med. and Surg. Journ., June 27, 1878, p. 824.

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are accustomed, at this period of the year, to resort for recreation to the mountains, the seaside, and the forests, and to engage in the unwonted activities of an out-door life—health-giving to the many, but with prejudicial results to the few who at all times are prone to excesses. In one region, the shell-fish when eaten are capable of producing urticaria; the gnats and mosquitos of the favourite resorts of sportsmen in the North-west inflict wounds which result in severe inflammation of exposed surfaces; the rays of the sun, aided by vivid reflection from the surface of water, exhibit their effects in those diffuse and localized pigmentations known as "tan" and "freckles;" and, in city or country, the improper use of alcoholic beverages may stimulate the perspiratory secretion to the verge of follicular congestion. Pedestrians in the fields and woods may come in contact with the poison ivy (*Rhus toxicodendron*), and thus beget an eczematoid affection. Coarse, dyed flannel underclothing next the skin, a truss, a suspensory bag, a waistband or corsets, worn with impunity in winter, may beget trouble on a hot summer day; and this is true of a long list of predisposing or exciting causes, which at other seasons are unappreciated or inoperative. The restless, teething baby during a hot night becomes covered with a lichenoid rash; the preputial sac of an adult male, which has tolerated well its sebaceous secretions in the month of January, will often rebel with a balanitis or herpes in July; and the ano-genital region at all ages is none the less sensitive in hot weather. The opiate swallowed in one month with happiest effect, in another produces a profuse diaphoresis or an intolerable pruritus; and the diabetic, rheumatic, and malarial disorders are most often the sources of disagreeable itching when the temperature of the air is increased. A young woman, engaged throughout the winter with impunity in sewing up rents in the dusty bags of the United States mail, showed me lately an eczema of the hands which appeared during the hot weeks of the past month. The palm of the left hand and the fingers adjoining gave an exact tracing of the manner in which each bag had been seized, and the fingers of the right member showed equally well the points of contact where the needle was held and pushed. Do not forget the vivacity and pertinacity of the animal parasites under the stimulus of heat; and that the self-inflicted wounds by the finger-nail in scratching are most potent for evil when aggravated by any of the causes we are considering. Never commit the blunder of treating a patient for "prickly heat" or "disorder of the blood," who has been the bed-fellow of a colony of bugs.

Now the effects produced by these and many other agencies which might be named, whether we call them "hives," "rashes," "itches," "prickly heat," or by other popular terms, are readily assignable to pathological classes. They are either, first, affections of the skin proper, congestive or exudative; or, secondly, affections of the secreting apparatus of the skin, exhibited in congestion or exudation in and about the follicular walls, and accompanied by disturbance of function (alteration, suppression, or profusion of discharge); or, third, they are anomalies of pigmentation. All these may be coincident or successive phenomena, the result being proportioned to the intensity and endurance of the cause; the degree of temperature and the nature of the media by which it is conveyed to the skin; the susceptibility of the individual; and the extent of surface involved.

Hyperæmic conditions are all characterized by their redness, varying from a rosy pink to an empurpled hue—whence the name, erythema—

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occurring in diffuse, punctate, or macular lesions (split-pea, finger-nail-sized, etc.), scarcely elevated above the level of the normal integument, and accompanied by subjective sensations of heat, tenderness, itching, smarting, or intense burning. They usually terminate in a few days by epithelial desquamation, the effete epidermis often first exhibiting numerous minute cracks or furrows, through which the red, tender, and newly formed epidermis appears.

According to Hebra, hyperæmia of a transitory character is induced in the skin by temperatures above 100° F.; but beyond 165° F. the erythema does not disappear at once when the source of the heat is removed, its subsequent history being that just described. At 212° F. there is usually destruction of the epidermis, with vesication and the formation of eschars. I need not add that the congestion is due to engorgement of that delicate plexus of bloodvessels which you can see interlacing just beneath the papillary layer of the corium when you examine a section of the skin with a microscopic objective.

When exudation occurs, it may be acute and transitory, accompanied by disturbance of equilibrium between nerve and blood-supply and muscle, resulting in the formation of evanescent, capriciously-shaped and sized wheals, pinkish and whitish in hue, inducing the well-known pricking, tingling, and stinging sensations which distinguish urticaria. Or, occurring between the apposed surfaces, it may furnish the characteristic ill-smelling secretions of intertrigo. Or the exudation may result in the production of one or several of the forms of eczema (erythematous, vesicular, pustular, papular, squamous), whose career may terminate by the mild sequelæ of desquamation and the formation of light yellowish friable crusts, or by the severer symptoms of eczema rubrum, a raw, tender, and angry looking surface, oozing with serum at numerous points, and covered here and there with its bulkier crusts.

Or, again, the congestive process may be limited to the follicles of the skin, and then we note the sudden occurrence of minute punctate or pin-head-sized papules, with profuse diaphoresis accompanied by pricking, tingling, or burning sensations (*Lichen tropicus*, "prickly heat"). When we examine these little papules with care, we discover that the hyperæmia is rather perifollicular than follicular; and that the projection occurs at the orifice of the duct. In other cases we find an abundant crop of equally small-sized vesicles upon the surface, with limpid or amber-coloured contents (*Miliaria*). In yet another class of cases, still smaller vesicles form, looking like seed-pearls scattered over the horny layer of the epidermis; minute drops of sweat being imprisoned between contiguous layers of the lifeless stratum corneum (*Sudamina*).

Among the anomalies of secretion should be named scanty, profuse, and offensive sweating (*Anidrosis*, *Hyperidrosis*, *Bromidrosis*), the latter, frequently accompanied by chemical alteration of the product of the sebaceous glands. Increase of pigmentation of the surface is a common symptom in both the congestive and exudative disorders; but in the production of both "tan" and "freckles" it is observed in uncomplicated diffuse and circumscribed forms.

You should not fail to remember, lastly, that pruritus, itching of the surface of the skin, may be purely a neurosis; and that it may be unaccompanied by any eruption save that produced by the nails in scratching. Mr. Jonathan Hutchinson, of London, has described a disease which is

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named by him "summer prurigo,"[1] commencing usually at about the age of puberty, lasting for years with exacerbation in the summer season, affecting by preference the face and upper extremities, and rebellious to treatment. But I am unable to recognize from his descriptions a disease occurring in this country with features sufficient to justify its consideration as a separate malady.

Referring to the subject of treatment, we have merely time to-day to consider briefly the general principles which should guide us in the management of this list of disorders at their onset.

You surely need not be told that an observance of the simplest rules of hygiene furnishes the key to a proper prophylaxis. Attention to the cleanliness of the skin, sponge- and open-air bathing, regulation of clothing and diet, temperance in the use of alcoholic beverages, daily evacuation of the bowels, a pure air in the sleeping apartment—these are all-important. Extremely sensitive skins require protection from the sun's rays by gloves, veils, a "capote," similar to that worn by British officers in India, or by dusting the surface, as the face after shaving, with rice-flour or powdered starch. The essential oils are largely used by sportsmen in the Northwest, to protect the face, neck and hands, from the incursions of insects.

Given an inflamed or irritated skin, and the first therapeutic injunction is to eliminate the cause of the trouble, and to know what not to do. Too often patients apply to us in great distress, who, strange as it may appear, have been swallowing arsenic, the potassium iodide, and worse proprietary remedies, by the advice of physicians or personal friends, in order to "purify the blood." These all are of positive injury in the disorders we are considering, and directly tend to aggravate the complaint. It is often the case that a mere suspension of the use of these drugs is followed by immediate relief. There is no internal remedy which will "cure" these diseases. An emetic may be useful when the stomach is loaded with offending matters, as in urticaria; a cathartic is usually needful when there is constipation or impeded portal circulation, and the refrigerant diuretics, especially when administered in the popular effervescing waters, are grateful to the palate, if they do not conduce to the relief of the surface congestion. A solution of the citrate of potassium or the bicarbonate of sodium will certainly not prove harmful, if swallowed in medicinal doses by the patient who insists on swallowing something.

It is no less important to discover whether the disease has not been aggravated by topical applications, stimulated till much physical suffering has been endured, by officinal remedies or patented nostrums. I charge you to study these symptoms of aggravation. About one-half of all our patients exhibit these symptoms, and, once recognized, we are on the high road to the best of success in their treatment. Well did Huxley say, that "the people perish for want of knowledge." Know all that predisposes to, excites, and aggravates, disease, and you need nothing further of the materia medica.

The measures I am about to suggest to you should not be deemed of little importance in the local treatment of diseases of the skin because they are simple. Show me a crimson-hued, swollen, hot, and tender skin, and I will show you a *noli-me-tangere* quite equal to that which was once the reproach of surgery. Such a skin will usually refuse to be comforted by the most perfect ointment made. A local or general bath of medicated

[1] Lectures on Clinical Surgery, J. & A. Churchill, London, 1878, p. 126.

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water is preferable, and this at the temperature most grateful to the surface. Remember that cold water is generally followed by a sharp and vivid reaction, that when employed it must be used continuously, and be permitted to evaporate, since water kept in contact with the skin in folded cloths is readily made to serve as a hot fomentation. Tepid and warm water baths are followed by a more or less enduring relaxation of the integument. Hebra medicates the water of the bath by pouring it, in a state of ebullition, upon flour or bruised almonds. In this country it is usual to add to each thirty gallons, about four ounces each of the biborate and bicarbonate of sodium, or a double quantity of either salt alone. It is well to squeeze into the water several times a coarse muslin bag containing a quart or more of common bran, as this imparts a mucilaginous and slightly astringent quality to the fluid. After this, the bag can be dried and used on other occasions, as the custom is in the French bathing houses. Soap is, in general, unnecessary, as the object we have in view is not the cleansing so much as the medication of the surface of the body.

Immediately after the bath the skin should be carefully and gently dried with soft, freshly-laundried towels—no harsh rubbing is permissible—and then a dusting-powder applied. Best, and cheapest too, of these is lycopodium. Observe that when I cover the surface of the water in this goblet with a thin layer of the dust, I can plunge my finger to the very bottom of the glass and remove it as dry as when it entered. There is not a drop of moisture clinging to the skin. This valuable property of lycopodium is available when it is desired to protect the skin from its own or foreign accumulations; and it has thus gained great favour among the Germans for use over the ano-genital region of infants, to the exclusion of the articles sold for similar uses in the shops. It can be readily combined with finely-powdered tannin when an astringent effect is desired.

Sometimes, however, it is desirable to make use of a dusting-powder which will supply the anti-pruritic effect of camphor; and this we can order, made of "corn-starch farina," rice flour, bismuth, oxide of zinc, and the ordinary starch of the shops. The chief objection to the starch-containing powders is their tendency to form little rolls or cakes when mingled with sweat and serum. An excellent formula, however, is that of Prof. M'Call Anderson: one ounce of starch, half an ounce of the oxide of zinc, and one drachm and a half of powdered camphor. To be of use, this should be made perfectly impalpable by sifting through millers' bolting cloth, and be kept in a wide-mouthed, stoppered vial, that the pungent aroma of the camphor, which seems to be connected with its anti-pruritic virtue, be not dissipated. A coarsely-triturated powder will decidedly irritate the skin, and patients are apt to find this out for themselves. I had lately in my charge a lady affected with severe intertrigo of the skin beneath two voluminous breasts, who sent for her powder from Italy to London, as she found her chemist there prepared it with the greatest care.

Such powders may be dusted freely over the surface, and also applied on soft, wide-meshed linen rags with which they have been incorporated. These should be well pushed up to the linear abrasion, which usually is the chief source of the secretion when folds of the skin lie in contact. Of course, when these secretions are offensive, a small quantity of the solution of chlorinated soda, or a weak carbolic acid lotion, should be used to correct the odour.

When the surface of the skin does not well tolerate the bath and the powder, it may be soothed with olive oil in various forms, and the most

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grateful of these is the linimentum calcis of the Pharmacopœia, applied on the antiseptic cotton, now extensively sold in the shops.

Weak lead lotions are justly popular in the treatment of many of these cases. My colleague, Prof. Haines, suggests, on good chemical grounds, that the acetate of morphia be substituted for the opium in the useful "lead and opium wash." My friend, Prof. R. W. Taylor, of New York, has published an excellent formula for a lotion to be used over raw and discharging surfaces, containing two drachms of the liquor plumbi subacetatis; two ounces of the tincture of opium and one of tincture of camphor; and two ounces of glycerine to a quart of water. This is to be carefully and neatly applied on strips of lint, properly adjusted to the part, and repeatedly wetted. Bear in mind that glycerine is but half a fat, and will prove exceedingly irritating to broken or abraded surfaces, if not largely diluted. When added to any lotion, it should serve merely to render the specific gravity of the latter equal to that of the exuding serum, lest either exosmosis or endosmosis occur; and neither is desirable.

When a mild astringent effect is desired, or merely the application of inert absorbents to the surface, we have the ordinary black wash, or we can add the subnitrate of bismuth or the oxide of zinc to the other lotions, in the strength of one or two drachms to the pint of fluid. Among the remedies from the vegetable world may be named the infusion of the leaves of the red raspberry (*Rubus strigosus*), which is esteemed chiefly for its soothing and anti-pruritic effects.

When the acuteness of the early stages of these disorders is at an end, then, and usually not until then, can we use an ointment with advantage. The simplest and best of these is freshly-prepared cold cream, or even vaseline, which will do well when the greatly-abused benzoated zinc ointment has failed. Do not forget, however, that we can add the latter, with great advantage in many cases, in any proportion to either of the former unguents; and that, for greater stimulating or astringent effects, we have a wide range from the excellent diachylon ointment of Hebra as modified by Kaposi, to those containing mercurials and the oil of cade or the oil of white birch.

For the removal of "tan" or "freckles" from the skin of the face, my friend, Prof. White, of Boston, employs the following formula, which I have used with advantage: ℞. Hydrarg. bichloridi. gr. vj; Acid. muriat. dil. ʒj; Aq. ʒiv; Alcoholis, Aq. ros., āā ʒij; Glycerin, ʒj. Misce. This is applied over night, and the skin washed with soap in the morning. Care should be taken to test the susceptibility of the skin before it is too freely employed. When irritating effects are produced, the lotion is to be discontinued.

I conclude by suggesting, in the treatment of herpetic and balanitic disorders of the adult male, which are exceedingly common in the summer season, the use of vinous or alcoholic lotions, sufficiently strong to gently stimulate the mucous membrane, and rendered astringent by the addition of the sulphate of zinc or tannin. In all cases when practicable, lint saturated with the lotion should be interposed in the præputial sac. The "follicular vulvitis" of females is best treated in the same general way.

Gentlemen, you must have ere this perceived the impossibility of exhausting this interesting subject in the hour at my disposal. It has sufficed merely to enable me to give you a few hints respecting the management of the early stage of some of the disorders I have named to you. Usually, however, long before the subsequent stages are reached, we should fail to recognize them as summer diseases of the skin.

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CLINICAL REMARKS ON THE USE OF THE CLAMP AND CAUTERY IN THE TREATMENT OF HEMORRHOIDS AND PROLAPSUS.

Delivered at King's College Hospital.

By HENRY SMITH,
Professor of Surgery in King's College.

Gentlemen: You have had opportunities of seeing me operate several times since the beginning of the present session on cases of hemorrhoids and prolapsus of the rectum by means of the clamp and cautery, and the case just brought before you is one which so well illustrates this particular operation that I think it well to make use of it, as it were, as the text for a few remarks on this subject.

The operation consists, as you are well aware, in drawing down and embracing the tumour within the blades of the clamp; then removing the hemorrhoid with a sharp pair of scissors, and, lastly, applying the actual cautery freely to the cut surface.

Each of these steps of the operation demands a few words from me. It is very important to isolate the tumours well, so as to compress them easily, and in some cases where the hemorrhoid runs, as it were, abruptly into the surrounding hypertrophied skin, it is well just to make a slight groove with a pair of scissors. By this means the blades of the clamp compress the growth more readily at its neck. You will have noticed also that in large tumours I use a clamp furnished with a light but powerful screw near its handles. By this means I tighten the grasp of the blades of the clamp more firmly; then, in removing the part, I take great pains not to divide the base of the tumour too close to the clamp. I leave tissue to the extent of an eighth of an inch, so as to have a fair surface for the use of the cautery. The iron is applied very carefully and very freely at a black heat, and then, all the cut surface being so treated, the blades are gently and gradually released by the screw on the clamp. In this way the pressure is taken off the neck of the tumour, and if any vessel is not thoroughly cauterized it immediately bleeds. The blades are then quickly screwed up again, and the hot iron is applied to the vessel until it ceases bleeding. Sometimes it is necessary, as in a case of huge prolapsus you saw me operate on a little time ago, to reapply the hot iron several times to the same vessel before bleeding ceases. You may, however, rest assured that with proper care you can stop bleeding from any vessel here by the use of the cautery.

Each tumour, and there are generally three or four, is treated in this way, and then, when an opiate suppository is introduced by the finger well oiled, the operation is completed. If there is much hypertrophied skin I remove a portion of it, and if the sphincter ani is very tight, I divide it, as in fissure of the rectum. I do this because I fancy in these cases there is less pain after the action of the bowels; for I find that in those cases of long-standing hemorrhoids or prolapsus, when the sphincter is very loose, the patient as a rule complains very little of pain after the action of the bowels.

The after-treatment consists in locking up the bowels by occasional opiates, and strictly dieting the patient. In the majority of cases the patient complains of more or less severe pain for an hour or two, and then it goes off. This pain is much alleviated by the application of hot water by means of a sponge. Retention of urine sometimes occurs, but not very frequently, more often in women, who generally suffer much more severely from hemorrhoids than do men. As a rule, the patient leaves the hospital in a week, the bowels being acted upon by castor oil three clear days after the operation, and then again two days subse-

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quently. Sometimes blood in a coagulated form comes away with the first movement of the bowels, and frightens the patient, but it is only for the most part blood which ran into the bowel at the time of the operation and remained there. At times there may be a little arterial bleeding, but I have never once had to use any stronger measures than to apply a speculum and throw up iced water for stopping any such bleeding.

Now the advantages I claim for this operation are—that it is all completed at once; that it is eminently safe; that the after-suffering is slight, and that the period of convalescence is short. In the old-fashioned method of applying ligatures, the operation may truly be described as not completed at one sitting, for of necessity the threads are left to come away, not rarely a most tedious and painful process. I have seen the most horrible suffering for hours and days after the use of ligatures. Then, again, we may meet with those uncomfortable sequelæ as the result of the presence of foreign bodies, and the subsequent ulceration, tetanus, diffuse inflammation, and pyæmia. Several cases of death have occurred after the use of the ligature from these and other causes; one or two, I regret to say, in my own hands. Some of these cases have been made known, whilst others, especially those occurring in private, have not been heard of. Now, ever since I began the clamp and cautery treatment in this hospital, in the year 1864, I am happy to say we have not had a single fatal or really serious result; and in my own private practice, where during the same period I have operated on several hundreds of cases—some of the most severe description, and at all ages up to eighty—I have only had one death which could fairly and honestly be placed to the account of the operation itself, and this resulted from an accident which ought not to have happened, and occurred several years ago. Three other cases, it is true, died after I had performed an operation, but in these instances, all of which have been published, the condition of the patients was such that it would be very unfair to attribute the fatal result to the operation alone.

I was afraid, however, I should at last meet with a fatal result at the hospital, and this leads me to call your attention to that case of huge prolapsus in which I operated a few weeks ago. The patient was an elderly man who had a prolapsus as big as a cocoa-nut always coming down, and rendering his life a burden. He had already been operated upon twice by a hospital surgeon, but in vain. The patient was then sent to me, and, formidable as the case looked, I determined to undertake it. I applied the clamp deeply in three different directions. There was a great deal of bleeding, and I had to apply the cautery over and over again before I could stop it; and then, just as I was finishing the operation, a most untoward event occurred—severe vomiting, as the result of the anæsthetic, took place. The prolapsus was forced still further down; and before I and my assistants could return the parts, the violent action of the abdominal muscles was such that the weakened coat of the bowel gave way, and a knuckle of small intestine actually protruded through the rent thus made. I carefully returned this as soon as the vomiting ceased, and anxiously waited the result. Our house-surgeon, Mr. Newmarch, watched the patient with great care and treated him with great skill, keeping him constantly under the influence of opium, and locking up his bowels for several days. The result was not a single bad symptom of any kind. On the first action of the bowels there was no protrusion, nor afterwards; and as soon as the man was fairly recovered I removed three longitudinal folds of skin from the anus, so as further to tighten the parts. The man was completely cured. Now, the lesson this case teaches is this—not to employ an agent which could cause vomiting; because, of course, in such a terribly severe case as this it is absolutely needful to clamp deeply, and thus weaken the bowel. It was a most unlooked-for accident, not likely to occur again; in fact, it is hardly reasonable

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to expect to meet with another such case for operation. I have, however, been called to cases as bad or worse, but where no operation could be recommended.

Simple and safe as is the operation by the clamp and cautery, it has gone through an ordeal of severe criticism; and although it has for some time been established as the best proceeding for hemorrhoids and prolapsus, I may refer to the objections advanced against the plan. First, it has been stated that it is a rough and painful treatment; but this argument does not hold good now anæsthetics can be used. A more solid objection is, that hemorrhage of a serious nature is liable to occur. I admit this. I am sorry to say I have known of cases where most serious bleeding has occurred, and I have been informed of two instances where death ensued from this cause; but I maintain that when such accidents occur it is in consequence of an error on the part of the surgeon. He either uses a faulty clamp or allows a vessel to recede from the blades, so that it does not get touched by the cautery, or he applies the cautery inefficiently. I became a little careless after I had operated on a great number of cases, and did not take sufficient trouble to thoroughly cauterize the vessels, and I had about half-a-dozen cases of somewhat severe bleeding; but since then—now some five years ago—I do not let a single vessel escape without being well cauterized, and I have not been troubled by hemorrhage at all. Stricture of the bowel may occur, but this is due to the too free removal of tissue, and especially of the skin about the anal orifice, and of course may be prevented. As a rule, after very severe operations, I advise the patient to use a bougie for a few weeks; this is a protection against any possible contraction.

Before concluding, I wish to say a word to you about the history of this operation. Those of you who have heard my remarks before will remember that I have always distinctly disclaimed having introduced this clamp and cautery treatment, and that I invariably give the credit of the origination of the plan to the late Mr. Cusack, of Dublin, and you will find this statement in my Lettsomian Lectures;[1] but I have always claimed what merit there may be of improving the clamp in such a way that it can be used with the greatest efficacy and safety. Hence my name is associated with this means of treatment, and in nearly every important work on surgery the instrument as now used is described and figured as mine. I have also in my Lettsomian Lectures, and in various papers, prominently drawn the attention of the profession to the subject, and, I believe, have been the means of getting the operation established as it is amongst surgeons both in this country and our colonies. I claim no other credit. I should not have mentioned this matter to you to-day were it not for the fact that an attempt has been made in certain quarters to ignore my claim to any little credit which my surgical brethren at large allot to me. The alleged dangers of this operation, too, have been spoken of in such a way as to lead one to suppose that the proceeding is attended with some considerable risk; but I need only repeat to you what I have told you before, that a fatal result has never happened in this hospital during the fifteen years in which the operation has been constantly performed, and under most adverse circumstances, and I have told you of the results of my private practice; so I must leave it to you to judge how far the operation can be considered a dangerous one. In fact, so far as I am concerned, the idea of danger as connected with this proceeding is not associated in my mind when I undertake a case of this kind, and so I honestly tell my patients when asked the question. For even in some of those desperately bad cases where the patients have been brought down to the lowest ebb by profuse hemorrhage going on for weeks or months, and where some serious result might be anticipated, the safety and success of the operation by the clamp and cautery are more marked than in instances of much less severity.—*Lancet*, March 13, 1880.

[1] Fourth edition, p. 106.

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Hospital Notes.

Cystic Sarcoma of Breast; Extirpation; Neuber's Bone Drainage-tube; Good Result.

A. D., aged 37, single, was admitted into Dr. BANTOCK'S ward at Samaritan Hospital, Nov. 26, 1879. She had a cystic tumour of the right breast as large as a turkey's egg, without any glandular enlargement in the axilla. The tumour affected the outer half of the mamma. She had also an abdominal tumour, which presented all the characters of an uterine fibroid. Its connections were such as to forbid any surgical interference. The former, however, called for early operation, as the skin over the most prominent part was becoming very thin, and threatened early rupture.

The tumour when first observed, about two years and a half before, was as large as a pigeon's egg, and was situated near the outer edge of the breast. It was then tender to the touch, but not painful. It had increased most rapidly during the last six months.

On Dec. 17th the tumour was removed, with the whole mamma, by two elliptical transverse incisions embracing the nipple. Three arteries were tied with silkworm gut, and the ends of the ligatures were cut off short. Compression forceps sufficed for other bleeding points. The wound was closed in its inner half (three inches) by a continuous suture, and in its outer by interrupted sutures of silkworm gut. Before the latter were tied a bone drainage-tube nearly three inches long, about a quarter of an inch bore, and about half a line thick, prepared according to Neuber's instructions, was inserted. The operation was performed under phenol spray, but the wound was not washed out. The outer end of the tube was trimmed level with the skin, and, instead of the small safety-pin recommended by Neuber, it was secured by means of a piece of silkworm gut passed through it transversely, with ends two inches long. Next the wound, and over the end of the tube, were placed fourfold pledgets of thymol gauze, then alternate layers of thymol and carbolized gauze to the extent of probably twenty folds, and they were secured by a many-tailed gauze bandage. Over this a thick pad of salicylic wool was placed, then Lister's eight-fold dressing, and again a many-tailed bandage, with shoulder straps, also of gauze. As much discharge was not anticipated, it was thought unnecessary to follow Neuber to the letter in the matter of the dressing.

On the 18th, under the spray, the dressings were removed. There was very little discharge, and the wound looked as well as possible. The dressings were reapplied in the same order, with the exception of omitting the first bandage. Menstruation reappeared.

On the 24th the wound was exposed without the spray, and seen to be united throughout. There was not a trace of redness; only the gauze over the tube's mouth was soiled. The tube was quite fixed, flattened, and the presenting portion was dry and otherwise unchanged. The whole of the continuous suture, and two of the others, were removed. Vaginal discharge was very free.

On the 27th, with a view of ascertaining what was becoming of the tube, the wound was again exposed. The gauze was soiled to about the size of a shilling, just going through four folds. Another suture was removed, leaving the one next the opening. All the white and unchanged portion of the tube was cut away. Beyond this granulation tissue had invaded it. *In fact it had become organized.* The patient was allowed out of bed, although the uterine discharge had not ceased.

On the 30th the last suture was removed. No trace of bone could be seen,

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but a flattened body could be felt occupying the site of the tube, and it was evident that instead of melting down and coming away in the discharge it had become organized in its entirety.

On January 3d there only remained a small granulating surface, less than the diameter of the tube. By the 9th it was quite dry, and the patient left the hospital on the 13th.

Remarks by Dr. Bantock.—In this country attention was first publicly called to the bone drainage-tube by Mr. MacCormac in an address delivered before a meeting of one of the Metropolitan Counties Branches of the British Medical Association, held at St. Thomas's Hospital on Dec. 3d last. Mr. Krohne had already shown me some of these tubes which he had made according to Neuber's directions, and on Mr. MacCormac's suggestion. I was then waiting for the time when my patient would be ready for operation, and I made up my mind to try the new tube so highly spoken of by Neuber, who is supported by Esmarch. Neuber cannot be said to have been in a hurry to proclaim his invention, for it was not till he had observed thirty-six cases to their termination that he published his paper.

The following represents his general conclusions. He says that when a bone tube is put into a fresh wound in a good subject, no particular change is observable within the first twenty-four hours, but soon after that time the outer surface loses its smoothness and presents a worm-eaten appearance, and the thickness of the tube seems to diminish gradually under a slow melting process. In this way its solidity is so much impaired that by the fourth or fifth day it collapses under the pressure to which it is subjected. After six or seven days it is reduced to a pulpy gelatinous mass of more or less cylindrical form, and by the tenth day all trace of the tube has disappeared, except the part which is not exposed to the action of the tissues, and which is usually to be found loose in the dressings about this period. The rapidity of absorption varies in different individuals, depending on constitutional conditions and the state of the wound. In one case of amputation of the leg (to which he specially calls attention) in a patient much weakened by long illness, and the subject of albuminuria, the tube was not absorbed in fifteen days, although the wound had healed almost throughout by first intention. In another case of a more vigorous patient, after amputation of a large part of the scrotum, no trace of the tube could be found after the tenth day. He observed that the tube disappeared quicker in cases attended with discharge than in those without. He especially claims for his method that fewer dressings are required than with the ordinary India-rubber drain, and that it produces no irritation.

As far as my case goes I think I must admit both these claims. Had it not been for my anxiety to see how the tube was behaving, instead of exposing the wound on the seventh day, I might have left it undisturbed for a whole fortnight. So perfect has the healing process been, that the skin slips freely over the underlying tissues, and the tube moves with it. This indicates the only point of difference—viz., that after a lapse of twenty-six days the tube can still be felt, apparently of its original size, but flattened. Is it an unmixed gain that it has become organized instead of being absorbed or coming away in the discharge after having served its purpose? Still, on the whole, the result is very satisfactory. The lips of the wound at the end of twenty-four hours appeared to be perfectly glued together. Throughout the whole course of the treatment the patient felt nothing of her breast wound, and I am inclined to attribute the elevation of temperature on the second and third days, when it ranged between 99.6° and 100.4°, to the disturbance in the fibroid uterus. One of her usual periods had only just ceased a few days before the operation, and the same night the discharge returned, attended with considerable pain, especially for the first

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three or four days. All this time, however, the pulse was unaffected. In length of treatment this case does not compare favourably with the last case of the same kind, in which the tube was removed on the fifth day, and the healing process was quite complete by the eighth day. But of the two subjects the latter was certainly the more favourable for operation.

In the table of cases Dr. Neuber gives three cases of ovariotomy, of which two died (of peritonitis), and one recovered. The date of the first dressing in this case was the twelfth day. I do not hesitate to say at once that in this operation the bone-tube is wholly unsuitable, and that to use it is only to court disaster. In this case the principle is entirely different, and the peculiarities of the bone-tube are at once seen to defeat the object in view.

Dr. Bantock adds: Since the above was written I have again used Neuber's tube—viz., in a case of irreducible hernia of omentum through the femoral ring, in which I unwittingly performed the radical operation for hernia introduced by Professor Socin of Basle. The case was rather obscure, as at no time while she was under my observation had any intestine descended. On the 17th inst. I cut down upon the swelling, and at once saw its nature. Completely isolating the sac, I then opened it, broke down an adhesion of the omentum, and tried to return it. As it resisted reasonable efforts I applied a ligature close to the ring, and cut away the omental mass. The stump at once receded. I then put a ligature around the neck of the sac, and cut it off. Both these ligatures were of silkworm gut, and the ends were cut off short. A small bone-drain was put in, and the wound closed by six sutures. On the 19th, the blood, which had escaped from the tube, had dried up in the gauze dressing, and the wound was quite dry throughout. On the 22d there was only a slight stain on the gauze just over the tube's mouth, and I cut away the end of the tube as close as possible, for this purpose pressing back the skin, so that the edge of the skin overlapped the tube. On the 24th the skin had come together and united, and the healing was thus complete. On this day I removed the sutures. In this case also the tube was found firmly fixed at the first dressing, and its organization was evén then assured. It is still to be felt under the skin. There is reason to hope that this operation will prove a radical cure, as the ring was not stretched, and the ligatured neck will form a firm and resisting plug.—*Lancet*, May 1, 1880.

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Gangrene of the Lung; Recovery.

Stephen M——, aged twenty-seven, a barman, was admitted into Dr. STURGES'S ward at the Westminster Hospital, 7th October, 1879. He had rheumatic fever when a child, but no other illness previous to the one complained of. Five weeks before admission he had been much exposed, and caught cold, complaining of cough, pain in the left side of the chest, profuse expectoration, and dyspnœa. These symptoms became more marked, and the patient also complained that his breath and sputa were very offensive, and that the dyspnœa frequently came on in severe paroxysms.

He was very anæmic in appearance, and seemed very weak, having lost flesh considerably. His breath and sputa were of the characteristic odour of pulmonary gangrene; the fetor was so intolerable as to make it most difficult to approach him, and was noticeable throughout the ward. The sputa were frothy at the surface, but had a blackish-gray layer below, the sputa having the same odour as the breath. On percussion, there was a patch of dulness over the left base behind, about three inches square, and on auscultating over this patch crepitation of medium character was heard during inspiration and expiration. The other parts of the lungs gave evidence of bronchitis.

Dr. Sturges diagnosed the case as gangrene of the lung, and ordered the patient

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to be placed in a complete atmosphere of carbolic acid vapour. A tent was placed round the bed head, and vapour of carbolic acid was passed into the tent. The strength of the solution was one per cent. One drachm to half a pint of water was used for vapourizing, and then gradually strengthened.

The patient was kept in this atmosphere for five weeks; for the first fourteen days the symptoms of cough and dyspnœa were no better, but the offensive odour of the expectoration disappeared; sputa still giving evidence of pulmonary break-down. During the remaining three weeks of this treatment the symptoms gradually improved, and the patient became better and stronger, and increased in weight.

On November 12th he was examined, and it was found that the physical signs at the left base had much improved, the breathing being fairly healthy. The sputa were no longer black and offensive.

On the 20th the patient was discharged in fair health.

There was nothing to remark about the temperature; the diet was mainly milk, beef-tea, and light puddings; meat during convalescence. The carbolized vapour had evidently prevented the gangrene from spreading after the slough had been thrown off in the sputa; the lung gradually regained its normal character.—*Lancet*, April 10, 1880.

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Whooping-Cough in a Man of Sixty-six treated with Drosera Rotundifolia.

William H——, aged sixty-six, beadle, came under Dr. MURRELL'S care at the Royal Hospital for Diseases of the Chest, in January, 1879, suffering from whooping-cough. He stated that he had had it for about three months. The attacks of coughing ended up with a distinct whoop and a violent struggle for breath. He had usually six or seven bad attacks in the day. They were not accompanied by vomiting, but terminated in the expectoration of thick sticky phlegm. The cough was most violent, and exhausted him very much, and he was glad to lie down after each paroxysm. There had been no hæmoptysis, no shortness of breath, and no night-sweating. He had lost flesh a little, but this he attributed to his loss of appetite. He was hoarse, and could not lead the singing as usual. His chest was carefully examined, but nothing wrong was detected. There was no doubt about the nature of the complaint, and one Sunday morning he whooped in church, to the consternation of the congregation. He had been exposed to whooping-cough, more or less, all his life, and thought he had caught it from some of the school children. This was his second attack, for he had had it as a child. He mentioned incidentally that his wife had it when she was sixty.

He was ordered fifteen grains of bromide of potassium in an ounce of water three times a day, and this he took for a fortnight with only slight benefit. He was then ordered a one-in-ten tincture of drosera rotundifolia (*The Lancet*, August 3, 1878), in five-drop doses, every four hours, in a little water. He took this for a week, and then returned, saying that it had made him much worse. It increased the spasm and cough, and made him whoop more; he whooped as many as a dozen times in a single paroxysm of cough. It increased the expectoration too, and he begged that he might be allowed to discontinue the medicine. He was then ordered half-drop doses of the same tincture in half an ounce of water every three hours. At the expiration of a week he reported that there had been a very great improvement; the cough was less, and he rarely had more than one attack in the twenty-four hours. He slept better, and his appetite had improved. He took the medicine for a fortnight longer, when the cough had completely left him. He was quite well, and was able to sing bass and lead the choir once more.

The points of interest in the case are—the age of the patient, and the fact of the drosera having succeeded in small doses after having failed in large.—*Lancet*, April 17, 1880.

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MONTHLY ABSTRACT.

Anatomy and Physiology.

Growth of the Human Hair.

1. In reference to the amount of hair produced on the head and beard in relation to time, Professor MOLESCHOTT (*Untersuch. zur Naturlehre*, Band 12, p. 187) has found by frequent cutting of the hair in an observation extending over a year on eleven persons, a maximum production of 0.28, a minimum of 0.14 grammes; the average being 0.20 gramme daily. The watery contents of the hair amount on an average to 13.14 per cent.; the loss of nitrogen in this way amounts to 0.0287 gramme = 0.0615 gramme of urea. 2. As regards the growth of the hair in relation to age and to the weight of the individual, the daily growth between 18 and 26 years of age is, on the average, 0.20 gramme; between 32 and 45 years of age, on the contrary, only 0.14. The smaller production of hair is associated with the larger body-weight, but the greater body-weight was always found associated with an older age. 3. Concerning the influence of the time of year, it was ascertained that the production of hair is stronger in the summer than in the winter. The hair has, indeed, in summer, a larger amount of water; but this explains the considerable difference only in very small part. 4. Concerning the influence of the frequency of hair-cutting on the growth of the hair, Moleschott ascertained that the ordinary notion that frequent cutting increases the production is correct. 5. Concerning the growth of the nails, in the course of a year the author produced on his hands 1.825 grammes, that is, 0.267 gramme of nitrogen, or 0.572 of urea; in another year, 2.086 grammes of nail-substance, = 0.315 nitrogen. The growth of the nails is more rapid in summer. 6. As regards the reproduction of the skin, after a boil on the volar side of the fingers, Moleschott lost a piece of epidermis which measured 75 square millimetres; it was 0.125 millimetre in thickness, and weighed 0.0227 gramme. The loss was fully recovered in 34 days. The surface of the body measures on an average 1.614 square metres. If it be assumed that the epidermis of the whole surface of the body is renewed to the thickness of 0.125 millimetre in 34 days, there is a daily loss of 14.35 grammes of epidermic substance through the unobserved desquamation. This quantity corresponds to 2.1 grammes of nitrogen, or 4.5 grammes of urea. Salkowski, who abstracts this communication in the *Berl. Centralblatt für die Medicin Wissensch.*, observes that the whole calculation arises out of the renewal observed as a sequel of a pathological process after epidermis had been removed, and gives, doubtless, too high a figure. 7. As regards the influence of disease on the renewal of the epithelial tissues; Moleschott suffered three weeks from catarrh of the bladder; during that time the production of hair and nails was diminished. 8. In his conclusion, Moleschott points out again that, by the elimination of the epidermic tissues, one-seventh of the amount of nitrogen which is found in the urine is daily eliminated.—*London Med. Record*, April 15, 1880.

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Materia Medica and Therapeutics.

Acetate of Alumina as an Antiseptic.

The expense and the want of durability of Lister's carbolic gauze have led to several attempts to replace the carbolic acid by other antiseptics. Of these, acetate of alumina, which was used as early as 1827 by Gannal for embalming corpses, and which has of late been introduced into surgery by Burow, von Bruns, Billroth, and Maas of Freiburg, appears to deserve special attention. It has been largely tried in Professor Maas's wards since June, 1879, and his assistant, Dr. PINNER, gives an account of its physical properties, and of the method employed and results obtained in its surgical application at Freiburg, in Nos. 12 and 13 of the *Berliner Klin. Wochenschrift*, 1880, from which the following facts are abstracted.

The solution of acetate of alumina (for the salt is not stable in the solid form) is made by dissolving 1000 parts "colloidal alumina," prepared by the firm of Löwig & Co., Dresden, in 800 parts dilute acetic acid. The liquid is filtered after standing twenty-four hours, and contains about 15 per cent. of acetate. For antiseptic purposes much weaker solutions are required. Dr. Pinner finds that a 0.5 per cent. strength will prevent urine or meat infusion from putrefying, while 1.5 to 2 per cent. solutions will stop all movement in a bacterial liquid, as well as sterilize the bacteria, so that no multiplication of them takes place in tubes containing Pasteur's fluid, and carefully isolated. Dr. Pinner does not wish, however, to assert that the bacteria are actually *killed;* to effect this, much larger quantities of this or any other antiseptic than it is possible to use in practice are probably required, as well as exposure to high temperatures. His view of surgical antiseptics is "to create such conditions in the wound as to render the fungi innocuous, unable to cause injurious decomposition, or to penetrate the surface of the wound and enter the blood."

The method of operating with acetate of alumina as an antiseptic, in accordance with these principles, is as follows: The skin is first washed with 5 per cent. carbolic acid solution in the ordinary way, and dried. The reason for this is that acetate of alumina is not saponifiable. Carbolic acid has also been used for disinfecting the instruments, as the acetate solution is so acid that it blunts and corrodes them. For every other part of the operation the acetate of $2\frac{1}{2}$ per cent. strength is alone used. Owing to the admixture of steam the actual strength of the spray which reaches the wound does not exceed 1 to $1\frac{1}{2}$ per cent.; but this answers all purposes. The acetate spray never causes anæsthesia of the operator's hands, as carbolic acid is liable to do, but it makes them rather rough. Professor Maas uses catgut for ordinary ligatures, and Czerny's antiseptic silk for atheromatous vessels or for deep-seated or large arteries. The sutures and drainage-tubes are inserted in the ordinary way. For the dressing, the wound is first covered with "protective," and then with loosely folded pieces of gauze, which are pressed firmly over and around it. The gauze has previously been soaked for a long time in 5 per cent. acetate of alumina solution, and wet compresses of the same, one and a half to two metres long and about twenty centimetres broad, four times folded, are used to keep the dressing in its place. From four to eight such compresses are generally needed, the rule being, *e. g.*, for an excision of the knee, to carry the dressing from the lower third of the leg to the upper third of the thigh. The whole is covered with gutta-percha tissue to prevent evaporation, the edges being surrounded with strips of 10 per cent. salicylated wool. To keep everything in place a calico bandage soaked in $2\frac{1}{2}$ per cent. solution of the acetate is used. The dressing is changed on the first or second day after the operation,

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and then only every fourth or sixth day; it has never been allowed to remain longer than the eighth day. On removal the compresses are found impregnated with the secretion from the wound, which has a sourish smell, and is rather more copious than when dry bandages are used, the moist compresses being more permeable; on the other hand, wounds and the surfaces of stumps have a cleaner look. The healing of the wound takes an absolutely aseptic course. None of the diseases which complicate wounds under the old system (*accidentelle Wundkrankheiten*) occurred in any of Professor Maas's cases. In three cases it was noticed that the acetate of alumina spray exercised an astringent effect, and checked the capillary hemorrhage from the part which has been operated on. In this respect it is superior to carbolic acid.

The acetate of alumina bandage is cheaper than Lister carbolic gauze. The colloidal alumina is sold by Löwig & Co. at forty-five shillings the hundred kilogrammes, and dilute acetic acid is also cheap. The compresses can be used over and over again after boiling and re-washing, and they are easily prepared. They adapt themselves well to any part of the body, and can be made to exert an even, elastic pressure on the wound. Eczema never occurs beneath them. Dr. Pinner gives details in his paper of a number of severe operations treated by the above method with success. The acetate has also been used by Professor Maas for permanent irrigations. Professor von Bruns, of Tübingen, first recommended it for this purpose—"severe injuries, especially compound fractures which come rather late under treatment, cases of extensive sloughing or great destruction of soft parts, or, in fact, any cases where it is difficult to apply an antiseptic dressing successfully, can be thus treated." It is best to begin with a 2½ per cent. solution, and then to reduce its strength to 0.5 per cent., which is found to be strong enough to disinfect and deodorize perfectly.—*Med. Times and Gazette*, May 8, 1880.

Medicine.

Growing-Pains.

M. Bouilly, in an article published in the *Revue Mensuelle de Médecine et de Chirurgie* and the *Journal de Médecine et de Chirurgie Pratiques*, December, 1879, studies, under the appellation of "The Fever of Growth," the attacks of congestion which occur in the bony tissue of the extremities of long bones, and which may go on to inflammation and coincide with febrile conditions connected or not with some other distant lesion. The phenomena are of various kinds. In a considerable number of cases, on the appearance of any insignificant affection, such as a slight angina or a feverish gastric disturbance, there supervenes in children a very high fever, lasting, at the most, from twenty-four to thirty-six hours, and manifestly connected with the local lesion. In addition, however, the patient shows depression quite out of proportion with the slight malady from which he is suffering; during the febrile attacks, and for the two or three subsequent days, there is, especially on pressure, a very decided sensibility over the epiphyses of the femur, tibia, and humerus; and, if care be taken to measure the child beforehand, after the attack he will be found to have grown four or six-tenths of an inch.

In another form, the fever seems to constitute the whole disease. On this point, M. Bouilly cites two cases observed by himself, in which the symptoms consisted in a series of paroxysms of intermittent fever, having in one case a tertian, and in another a quotidian type, commencing with a morning rigor, followed by heat, and terminating early in the night by copious perspiration. At the same

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time, pressure revealed the presence of decided pain at the level of the great epiphyses, especially at the moment of the attacks, less marked during the intervals. In each of the children, one of whom was thirteen and the other seven years of age, the increase in growth in a week was an inch. The attacks yielded to sulphate of quinine and perfect rest, but convalescence was complicated with a condition of languor and depression, and was much more protracted than might have been expected after a week's illness in children of good constitution. Here we find a type of the fever of growth, probably connected with congestion of the epiphyses.

Analogous facts have been pointed out by other medical writers. M. Bouchut has reported the case of a child, twenty-five months old, who grew more than three inches in six weeks, being affected with remittent fever, which the author believed to be connected with this growth. Regnier has also recorded the case of a youth aged 14, who was excessively short for his age, and was seized with extremely acute pains pervading all the joints. In six months he grew more than twenty inches. The absence of fever prohibits the supposition that the case was one of acute articular rheumatism. It is very probable that the patient had a series of attacks of juxta-epiphysary osteitis, which gave rise in six months to this enormous increase of growth. M. Bouilly, also, in pointing out that these fevers of growth are caused by congestive outbreaks in the vicinity of the joints in the epiphysary zone, considers them as the mildest stage of osteomyelitis of children and adolescents.—*British Med. Journal*, May 15, 1880.

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Salicylic Acid in Acute Rheumatism.

Dr. VON BOKKENHEUSER contributes to the last number of the *Nordiskt Medicinskt Arkiv* an interesting paper on the treatment of acute rheumatism by salicylic acid. The following are his conclusions:—

1. Salicylic acid is a specific against acute, febrile, articular rheumatism.

2. Its essential properties consist in the power it possesses of causing the affections of the joints to disappear and the fever to yield within some few days.

3. This result is effected with equal facility in patients of different sexes and ages; at the same time the effect is the more speedy and complete the earlier in the disease the patients come under treatment.

4. Salicylic acid is not capable in any special degree of cutting short the disease; but it alters its character in such a way that the patients, after the lapse of the first few days, do so well that they no longer feel themselves ill.

5. The treatment with salicylic acid does not always prevent a relapse, even if an "after-cure" is employed; but as a rule such a relapse can be brought to yield again in a very short time.

6. It is possible, and even probable, that the treatment with salicylic acid is often capable of preventing the outbreak of acute affections of the heart and lungs; and it is certain that these, when they do arise, pass off in a milder way than they otherwise usually do. In particular, it may be laid down that this treatment almost excludes the occurrence of an attack of pleuritis.

7. Salicylic acid is capable of stopping, in the course of a few days, an acute exacerbation of a chronic articular rheumatism.

8. Against monarticular pains salicylic acid is ineffective.

9. It likewise appears to be ineffective against attacks of a febrile acute articular rheumatism, even when these are of a polyarticular and wandering nature.

10. Against rheumatic hyperpyrexia salicylic acid has no effect.

11. In the case of a very few patients there seems to be such an immunity against salicylic acid that it produces no effect upon them.

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12. The treatment with salicylic acid does not exclude all other methods of treatment, such, for example, as the use of baths, protective bandages, and the like.

13. No definite contraindication to the use of salicylic acid seems to exist; but sometimes circumstances may require us to discontinue the medicine either for a time or altogether.—*Med. Times and Gazette*, June 5, 1880.

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The Spirilli of Relapsing Fever.

Dr. PAUL GUTTMANN (*Verhandlungen der Physiol. Gesellschaft zu Berlin*, No. 7, 1880) has examined the blood of more than two hundred relapsing-fever patients treated in the Berlin Barrack Hospital, and has never succeeded in detecting the characteristic spirilli of Obermaier except during the pyretic period. In one case he found spirilli motionless in the blood of a corpse thirty-six hours after death; in another they were still alive thirty-six hours after the patient's death. What becomes of the spirilli in the intervals between the relapses is still a mystery. Dr. Guttmann rejects Arndt's supposition that these bodies are not parasites, but processes emitted from the red blood-corpuscles owing to the high fever. At present, however, all his attempts to cultivate the spirilli outside the human body have failed. The blood of relapsing-fever patients also contains a number of very minute moving corpuscles, which are rather more numerous during the febrile periods than in the interval. They are not, however, peculiar to relapsing fever, but occur in many other acute diseases, and, more sparingly, even in healthy human blood. They can be cultivated in Pasteur's fluid, and appear to be certainly micro-organisms derived from the atmosphere.—*Med. Times and Gazette*, May 8, 1880.

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Therapeutic Value of Salicylate of Sodium in the Intermittent Fever of Children.

Dr. J. ZIELEWICZ, in the *Deutsche Med. Wochenschrift*, No. 41, 1879, reports 207 cases of intermittent fever treated successfully with large doses of salicylate of sodium given during the febrile period. As regards certainty and rapidity of action, however, it is inferior to quinine. To children under one year an average amount of 3.5 grammes (with a range of 3 to 8 grammes) was administered; to children of 1 to 4 years, 5 to 6 grammes were given; and to children of 10 years, 8 to 10 grammes. The treatment is less expensive than that by quinine.—*London Med. Record*, May 15, 1880.

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Tuberculosis as a Contagious Disease.

There are few names known to contemporary medical science which arrest the attention of students of pathology more powerfully than that of Professor COHNHEIM, of Leipzig. In the early part of his career, he distinguished himself by a series of remarkable discoveries, and he is now becoming widely known and appreciated as a lucid and suggestive teacher. In none of his published writings with which we are acquainted is this power of exposition more happily developed than in a small *brochure* from his pen on tuberculosis viewed as a contagious malady,[1] which has been recently published. A short account of the method by which the author attempts to harmonize the varied observations which have been recently made on this disease, by showing how they are all explained by the assumption of the truth of one central fact, for the appreciation of which medicine and humanity are indebted to the science of experimental pathology, will prove

[1] Die Tuberkulose vom Standpunkte der Infectionslehre; von Julius Cohnheim. Leipzig: 1880.

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useful, if it do no more than show how much is being done, and yet remains to be done, in a fruitful and important field of research.

In the theory which was originated by Virchow, long adopted in Germany, and now largely taught in this country, it is held that a fundamental difference exists between miliary tubercle—tubercle properly so-called—and the inflammatory products found in scrofulous disease of the lymphatic glands, and in the form of phthisis called by the Germans caseous pneumonia. The latter processes are regarded by Virchow as purely inflammatory in their nature, and as differing from other inflammatory processes only in that there is neither absorption nor further development. This theory is based on certain anatomical facts, and may be conveniently termed the anatomical theory. One of the objects of Professor Cohnheim's *brochure* is to show that, since Villemin has proved that tubercle can be transmitted by inoculation, this anatomical theory has been completely shattered. The test for tubercle now no longer consists in certain qualities of colour or consistence, nor in the presence of certain microscopical elements—tests which, in any case, have been shown, during the last few years, not to have the value which had been assigned to them—but in the capacity of a morbid product, when introduced into the body of a rabbit or a Guinea-pig, to produce tuberculosis in the animal. What produces tuberculosis is tubercle, what fails to produce tuberculosis is no tubercle. Judged by this criterion, the caseous pneumonia and miliary tubercle are manifestations of one virus; and the doctrine of Laennec, which for a time had been in the shade, has now received ample confirmation. Further, the scrofulous lymphatic gland is found to contain the same poison.

For the application of this test all animals are not equally reliable. "Dogs, for example, show little susceptibility, whilst rabbits and Guinea-pigs have it in a remarkable degree. The way in which the tuberculous substance is introduced into the animal is almost a matter of indifference; the common and most convenient method of procedure is inoculation by a small incision either into the subcutaneous tissue, the pleural or peritoneal cavities, or the anterior chamber of the eye. Chauveau and others have infected rabbits by feeding them with tubercular matter, and in Munich animals were rendered tubercular by inhalation of tubercular sputa in spray. Whether there is much or little tubercular substance employed, whether it is used alone or mixed with other tissues—as, for example, pieces of lung containing tubercular nodules—is of little importance; of far greater consequence, on the other hand, is it that the substance used should be fresh and free from decomposition. The fresher it is, the less likely is the experiment to be affected by septic and similar influences, and infection is the more certain. How the infection takes place, is best seen in animals when the tubercular matter has been introduced into the anterior chamber of the eye. In this case, if the substance be absolutely fresh, the irritation produced by the introduction soon passes away, the small portion introduced becomes gradually smaller and smaller, and may even completely disappear. Then, for a time, the eye is completely clear and intact, until suddenly on the iris a smaller or larger number of minute gray nodules appear, which grow to a certain size, and then caseate, exactly as happens with human tubercle. In the rabbit, Salomonsen and Cohnheim observed the eruption usually about the twenty-first day after inoculation; in Guinea-pigs, as a rule, a week earlier. In the rabbit, also, the period of incubation is sometimes shortened to fourteen days."

It is this test that, applied to human tubercle on the one hand, or caseating scrofulous products on the other, shows that they are both caused by the same virus. All these morbid products are effective, and in the same degree. If a piece of tubercular peritoneum or cerebral membrane be introduced into the peritoneal cavity of a rabbit, typical tuberculosis, beginning in the abdominal organs,

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is the result. But inoculation with a piece of lung affected with caseating pneumonia, or of a caseating testicle, produces exactly the same effect, and nothing succeeds better than a freshly excised scrofulous lymphatic gland from the neck.

Those who are convinced that all contagious virus is due to a parasite will, of course, not hesitate to believe that the tubercular poison is corpuscular, and that, in a not very distant future, this corpuscle will be demonstrated in the tubercle-nodule and in scrofulous products. Until, however, this goal has been reached, there remains no other test for tubercle than that of infection. The leading principle here, as in all infecting maladies which produce local changes, is that a tubercular or scrofulous product is generated wherever the tubercular virus is present and remains for a certain time. The chief factor, therefore, in determining the localization of the disease, is the mode of introduction into the system. Once introduced, its further extension is influenced by the conditions of the structure of the part, and takes the direction of the natural roads of the organism. Consequently, whilst, on the one hand, the course which the disease takes is very different in different cases, the eventual entrance of the virus into the circulation affords the conditions for the development of tubercle in distant organs. The influence of the point of introduction is strikingly exemplified by inoculation experiments. When a small piece of tubercle is introduced into the peritoneal cavity, there constantly follows, in the first instance, tuberculosis of the peritoneum, spleen, and liver; after inoculation into the anterior chamber of the eye, the iris is first affected; after feeding with tubercular matter, the intestine and the mesenteric glands; after the inhalation of pulverized sputa, the lungs and bronchial glands; and, when the material has been introduced into the subcutaneous connective tissue, it is the nearest lymphatic glands in which the disease first develops.

That the lungs are affected with tubercular disease in a far larger ratio than other organs shows, in Professor Cohnheim's opinion, that the poison is introduced into the human economy most frequently with the inspired air. This conception finds support, he believes, in the frequency with which the bronchial and tracheal lymphatic glands are affected in a very early stage of the disease—so much so, that an extensive tubercular pleurisy, and still more frequently advanced caseation of the glands, is found, whilst in the lungs there are only found a few nodules or a very scant amount of caseous infiltration. An analogous condition is found in the certainty and rapidity with which inhaled carbonaceous particles reach the pleura and bronchial glands. The conditions which determine whether the inhaled virus shall produce disseminated tubercle or caseous pneumonia are still unknown.

Whilst the pleura and bronchial glands become diseased immediately after or simultaneously with the lungs, the anatomical relations of the air-passages with each other and the digestive canal furnish the means for further development of the disease. So soon as a breaking down of tubercular products and consequent ulceration have taken place, a certain quantity of tubercular, that is to say, of infecting matter, must leave the lungs. This reaches the trachea and larynx, and, if it take root there, tubercle and tubercular ulceration are the consequence. Then come the pharynx, the soft palate, the root of the tongue, and tonsillar region, which are all exposed to the same influence. A certain proportion of the matter is swallowed, but the passage through the œsophagus is too rapid, and undoubtedly the acid reaction of the gastric juice too adverse to the local inoculation and further development of the organized tubercle-poison, to favour the development of the disease in the gullet and stomach, where tuberculosis is exceedingly rare. When, in consequence of the swallowing of large quantities of tubercular matter, catarrh of the stomach has been produced, the chief obstacle

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to the transmission of the virus into the intestine is overcome. In the bowel, infection will most likely follow at points where the intestinal contents are longest detained; that is to say, in the neighbourhood of the ileo-cæcal valve, the lower portion of the ileum, the cæcum, and ascending colon. The upper and lower extremities of the tube are less exposed. It is easily ascertainable in what parts of the intestinal wall the tubercle is most likely to fix itself—on those points, namely, where all absorbed substances are first retained; that is to say, in the lymphatic structures, the isolated and grouped lymph-follicles. These are, in fact, as is well known, the seat of caseating and tubercular ulcers of the intestine. Simultaneously with or immediately following the development of the virus in the follicles comes the devolopment in the mesenteric glands; whilst, on the other hand, the tubercular ulcers admit the poison into the branches of the portal vein, and the liver is then endangered. How frequent is tuberculosis of the liver, every one knows who has taken the trouble to examine this organ with sufficient care in all cases of chronic tuberculosis. With this combination, consumptive disease of the lungs and intestine frequently ends, but further developments sometimes take place. The disease may enter the ductus choledochus and produce tuberculosis of the bile-ducts. More frequent and more important is transmission to the peritoneum from deep ulcers of the intestine. And the virus inhaled with the atmospheric air may take root directly in the larynx and trachea, producing the so-called primary tuberculosis of the larynx.

Whilst the tubercular disease of the digestive tube which has been described in the foregoing sketch is secondary to the affection of the lungs, there are cases in which the intestinal canal admits the virus into the system for the first time. Amongst this class of cases, Professor Cohnheim reckons advanced tubercular disease of the mesenteric glands and peritoneum, without disease, or with only a very slight disease of the lungs—a form of the affection rare in adults, but unfortunately very common in young children. The reason why young children are specially exposed to this danger may, perhaps, be found in the experiments of Gerlach, Klebs, Orth, and others, who have shown how close is the connection between the virus of the consumptive disease of cattle and that of human tuberculosis, and have further proved that the virus from the diseased cows is contained in their milk. Whether the milk of tubercular women contains the virus does not seem yet to have been investigated; but, with the well-known prevalence of tuberculosis amongst cattle on the one hand, and with the widespread prevalence of the habit of bringing up children on cow's milk on the other, an explanation of the frequency of primary consumptive disease of the intestines is ready to our hand. Perhaps the influence of food in producing tubercular disease has even a wider extent. The question may at least be entertained whether all the so-called scrofulous inflammations of the lips, mouth, and pharynx, and especially the caseating swellings of the lymphatic glands of the neck, are not due to the direct inoculation of the tubercular virus contained in food, and more especially here, also, in infected milk.

Professor Cohnheim's remarks on uro-genital tuberculosis are very suggestive. Direct infection from one sex to the other, as by syphilis, although not impossible, is scarcely to be expected. If the virus from tuberculosis of the uterus ever is transmitted *in coitu* to the male urethra, or, perhaps, what is not so unlikely, if a man with tuberculosis of the lungs or other organ can transmit the tubercular virus to the genital mucous membrane of a woman, such cases must still be very exceptional. As a rule, uro-genital tuberculosis is a disease of excretion. The virus, from whatever source it has entered the blood, is excreted by the kidneys, and doubtless, like cinnabar particles, oil-drops, milk-globules, and bacteria, through the glomeruli. It by this means gets access to the urinary passages, and,

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on whatever point it gets a hold, tuberculosis develops. Most frequently, this takes place in the open canaliculi of the pyramids; but the disease may develop also in the pelvis of the kidney, in the ureter, and the bladder, and even in the prostatic portion of the urethra tuberculosis may occur. It may cross in the bladder to the other ureter, and ascend to the other kidney; more frequently, however, it is the urethra that is attacked. In the male, the virus attacks the prostate, thence passes by the *ductus ejaculatorii* to the seminal vesicles, and onwards to the vas deferens, the epididymis, and testicle, but it can also pass directly where the ureter and the vas deferens cross. In the female, the anatomical arrangements of parts renders the route by the urinary passages very improbable. In the great majority of cases, the parts affected are the Fallopian tube and the uterine mucous membrane, the virus entering the tube from the peritoneum, which is scarcely ever found free from tubercle in genital tuberculosis in the female.

Although analysis shows that uro-genital tuberculosis is scarcely ever the primary outbreak, this cannot be said of all the parts where tubercle is localized. In meningeal tuberculosis, there are cases, especially in children, in which the usual deposits in the lungs or glands are not to be found. How, in such cases, and even in those in which the deposits in other organs are present, is the transmission of the virus to the meninges of the brain to be explained? Dr. Cohnheim is in such instances disposed to accept Weigert's explanation, who has suggested that the poison gets access to the membrane of the brain from the nose, passing through the foramina of the ethmoid bone.

Still more difficult of explanation are cases of tubercular disease of bone and fungating tubercular disease of joints, occurring in individuals in whose other organs no tubercular deposit is to be discovered. Although in most such cases the development of the local disease is traced to an injury, yet it is not to be supposed that an injury can beget the tubercular poison. Professor Cohnheim conceives it to be possible that, in such persons, the virus is already circulating in the blood, and that, with the exudation which follows the injury, the poison leaves the bloodvessels and engrafts itself in the tissues.

As a rule, the tubercular poison is not spread through the medium of the circulation, although in favourable instances this occurs; and metastatic tubercle, comparable to the most developed forms of metastatic inflammations and tumours, is sometimes found. When we add to this mode of infection the direct transmission from the peritoneum to the spleen, through the lymphatics of the diaphragm to the pleura, from the pleura to the pericardium, etc., we need not wonder at the number of organs that are sometimes found affected with tuberculosis.

In explanation of instances of acute miliary tuberculosis come the cases described by Ponfick, in which, as a cause of the contamination of the blood with large quantities of the poison, tuberculosis and caseous infiltration of the thoracic duct were found. A more frequent cause, however, of this rapid form of the disease is tuberculosis of the bloodvessels of the lungs, instances of which are recorded by Weigert. A local tuberculosis of the pleura, bronchial glands, or mediastinum has extended into the wall of a pulmonary vein, and a large surface of caseating tubercular substance has projected into the lumen of the vessel. In the light of these discoveries, acute miliary tuberculosis loses much of its mystery.

When the chronic nature of scrofulous affection of the lymphatic glands, and the immunity to the general health that often follows it and scrofulous disease of the joints, are compared with the rapid and deadly course of acute tuberculosis, it may seem extraordinary that they are all attributable to the same poison; but inoculation of rabbits shows that they all produce the same disease—a pure tuberculosis. In endeavouring to account for the comparative innocence of some classes

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of cases, it must not be forgotten that the human organism may even overcome entirely the poison. Tuberculosis can heal. Pathological anatomy has long known cretification and cicatrization after tubercular deposit and ulceration. Professor Cohnheim, assuming the error of the dualistic theory of syphilis, compares the localization of tubercular affections with cases of syphilitic infection in which there is no manifestation of disease further than the nearest lymphatic glands. Individual differences in the behaviour of the organism which has been infected by tubercle are seen even in inoculated rabbits. When equally large pieces of the same caseating lymphatic gland are introduced into the peritoneal cavity or into the anterior chamber of the eye of a number of Guinea-pigs or rabbits, the first outbreak of tuberculosis takes place at about the same time and in the same manner in all of them, but the further progress shows the greatest imaginable diversities. One animal succumbs after five weeks, and, on examining the body, nodules and caseation are found in almost every organ: the peritoneum, liver, spleen, lymphatic glands, the lungs, vascular walls, etc. A second lives over two months; a third, three months, and longer; in another, not only the eye but the lungs are almost completely filled with tubercle; in another, the respiratory organs are almost entirely free, whilst the abdominal organs are extensively affected; in a sixth, the eye is completely destroyed by caseous panophthalmitis, whilst the animal is otherwise perfectly healthy, is not emaciated, eats well, and is strong and lively; and when finally, after many months, it is killed, tubercle is found nowhere except in the eye.

Professor Cohnheim will not have it that the different powers possessed by individuals of resisting the tubercle poison are due to the presence or absence of a phthisical or consumptive habit of body. The so-called consumptive habit of body has nothing to do, he believes, with a facility for receiving the virus, but is a product of the disease. Individuals with this phthisical habit of body are not specially predisposed to tubercle, they are already tubercular. In their case, the disease has been either acquired in early life or has been inherited. That tuberculosis is hereditary is too well known to require to be more than stated; but, translated into other language, that means nothing more or less than that the tubercle-virus can be transmitted in the semen and in the ovum: whether it can, like the virus of smallpox, be transmitted to the fœtus through the placental circulation, remains yet to be learned. The only difference in this respect between it and the syphilitic poison is that, while the latter manifests itself in the offspring before or soon after birth, in the case of the tubercle poison the development takes place at a later period.

Thus, in the whole history of tubercle everything is due to the special nature of the poison and its effects. According to the present manner of looking at the subject, every man is tubercular in whose body the tubercular virus has taken root. There is, accordingly, no predisposition for tubercle any more than there is a predisposition for syphilis, although some persons are more easily infected than others. Nor is there any constitutional predisposition that causes hyperplastic or inflammatory products to caseate like tubercle instead of being absorbed or changed into connective tissue, but only those pathological products undergo the specific change which are already the product of the tubercular virus. Other than this, there is nothing in the whole course of tuberculosis wherein there is a difference in principle between it and other diseases arising from local infection. Not even the fever is pathognomonic.

The summary which we have given of Professor Cohnheim's views, and as far as possible almost literally in his own words, will, we hope, give some idea of the nature of one of the problems that have been for the last few years earnestly engaging the attention of pathologists, and will also indicate the line of observa-

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tion and investigation that inquirers are now following in endeavouring to acquire a fuller knowledge of the nature of tubercular disease. The small *brochure* on which we have so freely drawn, well merits the attention of all who are engaged in the active practice of medicine; and as this is hardly possible so long as it is only accessible in the original German, we would fain hope that some competent pen may translate it in its entirety.—*British Medical Journal*, May 8, 1880.

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Note on a Case of a Severe Attack analogous to Gastric Vertigo.

In an interesting communication on this subject, Dr. JAMES RUSSELL, of the Birmingham General Hospital, makes the following instructive remarks:—

There are few forms of disease in which clinical phenomena illustrate in a more interesting manner the results afforded by the minute dissection of the nerves, characteristic of the anatomy of the present day, and the relations held to one another by certain nerves in their ultimate distribution, than that large and curious group of cases which have vertigo for a leading symptom. The explanation of the phenomena presented by Menière's disease, which is based upon the influence exerted on the semicircular canals in directing the equilibrium of the body, is in striking agreement with the observations made by the late lamented Lockhart Clarke, in his laborious dissection of the medulla oblongata, reported in the *Philosophical Transactions* for 1868. It is there explained that the outer and inner auditory nuclei are derived mainly from the gray matter of the restiform body and of the posterior pyramid (the restiform and post-pyramidal nuclei); and, further, that one division of the root of the auditory nerve (the anterior division) may be traced to the superior vermiform process of the cerebellum.

With this demonstration by Dr. Clarke, of the connection between the central organs of hearing and the cerebellum, may be connected the suggestions of Dr. Hughlings Jackson as to the office held by the cerebellum in directing the automatic movements of the muscles and limbs, and especially in maintaining the equilibrium of the body, which are epitomized in the *Medical Times and Gazette*, October 26, 1878. But the group of cases to which this explanation applies has been largely extended by Dr. Woakes, who has brought the well-known cases of stomach vertigo within the same category, although in these cases the auditory apparatus, central and peripheral, is itself quite free from disease. Altered circulation within the labyrinth, and consequent compression of the endolymph, constitute the basis of Dr. Woakes's explanation; and he refers, in confirmation, to the relations which are effected in the inferior cervical ganglion, between certain afferent nerves from the stomach and the vaso-motor branches of the sympathetic present in the vertebral plexus. (*Am. Journ. Med. Sci.*, N. S., vol. lxxv., 1878, page 419.) But the nervous connections which subsist in the inferior cervical ganglion are shown by Dr. Woakes to comprise, in addition, the inhibitory nerve of the heart, besides the vaso-motor plexus of the vessels of the arm: hence, by a similar explanation, other cases come to be included, in which the symptom of vertigo has not been present, but in which the phenomena point rather to cardiac failure as the chief cause of the derangement. In not a few of these last-mentioned cases, the patient talks of being giddy, but, on inquiry, it is found that true vertigo has never been experienced. In other cases, again, a mixed condition prevails, in which it is difficult to apportion the relative responsibility between the heart and the equilibrating apparatus.

But, entirely apart from the interest attaching to these anatomical details, the explanation of attacks such as those to which I refer has much importance by removing the case from the dreaded category of epileptic attacks, and placing it

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under a more hopeful aspect. It is true that, occasionally, the true vertiginous disorder is so intense that there seems little to choose between it and true epilepsy. A case of Menière's disease is described by M. Charcot (*Le Progrès Médical*, December 11, 1875), in which the patient was restricted to the most absolute stillness in the recumbent position; still, as a rule, the cases now in question have a more cheerful look-out, and, at the worst, are without some of the most dreaded results of confirmed epilepsy, viz., loss of mental control. The diagnosis, however, is sometimes not easy; and I have met with several cases in which the more unfavourable conclusion had been arrived at. It is with reference, more particularly, to the last-mentioned view of the subject that I insert a brief note of the following case; simple as the symptoms appear, when a full report had been obtained, the derangement was so severe for two or three days that, having nothing but the present condition before us, the diagnosis shifted between epilepsy and meningeal hemorrhage. The history subsequently obtained from the patient made the matter clear.

J. B., a healthy-looking man, with gray hair and spare habit, was brought to the Birmingham General Hospital, having been "taken in a fit." It was afterwards found that he had been subject for the last two years to attacks, of which the only account he could give was, that they began with violent belching; then what he thought was the wind came on, and seemed to go all over him, rendering him tremulous, making his head very queer, and causing him to feel much difficulty in keeping on his feet. He had never been rendered helpless by the attack, nor had he lost consciousness until the present occasion, when the unconsciousness was only partial, though, when seized in the street, he had felt great fear as to his ability to reach his destination. He had never staggered, nor been conscious of giddiness. The attacks were brief, though some had lasted for a quarter of an hour. He was always relieved by a small dose of brandy. Sometimes, the attacks had occurred in the night, and then he had been compelled to arouse his wife, in order to get the dose of brandy. He had been a healthy man, excepting that some time ago he had indigestion, attended with pain across the chest. He was placed on milk diet, and soon recovered. He was, however, very morbidly impressible. His habits had been strictly temperate. A certain degree of rigidity in the radial arteries was the sole evidence of fault in his physical organization. His optic disks were healthy. The commonest cause of the attacks was long abstinence from food; but the most certain means of inducing them was afforded by a meal of tea; he had been compelled in consequence to substitute cocoa. On the morning of his present attack, he had had tea for his breakfast. He was engaged in emptying boats, when he suddenly cried out that "he was bad;" he did not fall, but was helped into the hut near the boat, and, having had some brandy, was conveyed to the hospital. In the out-patient room, Dr. Simon found the patient unable to stand, and, suspecting that intracranial hemorrhage had occurred, sent him into the wards. That was about 10 A. M. Dr. Malet, the house-physician, found the patient sitting on a chair, having, every few minutes, attacks of fearfully violent eructation, effected with a loud noise; during the intervals of belching, the man was only half conscious; he could not be made to reply to any question, and hardly to protrude his tongue, which was very furred. After a bath, he had an attack of apparent unconsciousness; he then lay on his back, almost like an apoplectic; the pupils were dilated, and feebly sensitive to light; respiration was stertorous; the cheeks were blown out and drawn in with respiration. The face was dusky, and there was profuse perspiration. The pulse was very soft and full, and was accelerated. It was some hours before he recovered from this condition, and he was not fully himself until the following morning; for two or three days he appeared dazed and confused. His recovery

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was speedy and complete. He had only an imperfect recollection of what had taken place; he remembers being conveyed to the hospital and being placed in the bath, but there his memory becomes at fault. The attack just described happened on December 1st of last year. On March 6th he visited the hospital in perfect health. He had been taking liquor strychniæ.—*British Med. Journal*, May 15, 1880.

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Alterations in the Alimentary Tract in Pulmonary Consumption.

Dr. Luigi Mazzotti (*Bulletino delle Scienze Mediche*, February, 1880) continues from the preceding number his researches on the changes in the digestive tract, which occur in pulmonary consumption. Out of fifty cases, he found ulceration present more or less in thirty-seven. (See *Monthly Abstract*, April, 1880, p. 351.) In one case only did he find tubercles. In twelve cases there were no changes whatever. In nine, however, of these the pulmonary lesions were comparatively slight, and were associated with other and more or less important changes. As regards the situation of the ulcers, the author divides them into those (*a*) where one part only of the digestive tract was invaded; this was so as regarded the small intestine in eleven cases and as regards the large in five; (*b*) where two parts were involved, viz., in eighteen cases, both the large and small intestine, and in one case the pharynx and small intestine; (*c*) where three parts were involved, viz., in one case the stomach and small and large intestines; (*d*) where four were involved, viz., in one case the tongue, pharynx, large and small intestine. In all these positions the morbid process had commenced with tumefaction of the lymph-follicles, followed by ulceration, which spread from the mucous membrane to the subjacent tunics. In the case of ulcers of the stomach, the only lesions present were those referable to ordinary catarrhal inflammation. In all the cases examined tubercles were found, with varying frequency and of varying distances from the patches of ulceration. Subserous tubercles were found in one case, in which the typical lesions of phthisis were wanting. Tubercles of the mucous membrane without ulcers were found in one case of phthisis, and in a case of cancroid of the scrotum. He concludes from these researches that it is not perfectly correct to speak of "tubercular ulcers of the digestive tract" as symptomatic of pulmonary phthisis or tuberculosis. Tuberculosis and tubercular ulceration of the intestines are not synonymous expressions.—*Lond. Med. Record*, May 15, 1880.

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Albuminuria.

A new and very simple method of investigation has been introduced for the study of the place of origin of albuminous exudations. It consists in causing the rapid coagulation of the albuminous elements by heat or other means, and so fixing them for future examination. The first to make use of this method was Perls, and it has since been adopted by Posner, Ribbert, and Litten. The method commonly employed has been the quick coagulation of the albumen by heat. This fixes it in the localities in which it existed during life, whereas other modes of hardening, instead of doing this, have the disadvantage of extracting it. Boiling water hardens the fragment of tissue in a few minutes; its elements present no change; the chemical reactions with colouring agents are the same; and the fragment can be preserved in alcohol or chromic acid fluids, with the sole difference from uncooked preparations that instead of the spaces being empty they are seen to be filled with coagulated, clear, finely granular albuminous masses. These are so striking that Posner asserts that no examination of a tissue infiltrated with an albuminous fluid can be regarded as

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exhaustive which is not controlled by this method. Applicable to various investigations, it is especially valuable in the examination of the kidneys. The slightest degree of albuminuria can, the same writer asserts, be demonstrated anatomically by this method with certainty. The transuded albuminous masses can be fixed both *in statu nascenti*, and after exudation. They are seen in characteristic aspect in the capsules around the glomeruli, and thence can be traced into the urinary tubules. When the effusion is not merely from the glomeruli, but also from the capillaries around the tubules, it can be seen between the membrana propria and the displaced epithelium. In the large white kidney, for instance, the naked-eye appearance is seen, in preparations by this method, to depend chiefly on distension of the capsules and urinary tubules with albuminous fluid.

The information which this method supplies regarding the translucent fibrinous cylinders is of especial interest. Some facts have been adduced to prove that the tube-casts arise by transformation of the epithelium of the tubules, but the results obtained by "cooking" suggest the opposite conclusion. Even in the human kidney, in which the process is complex, distinct transitions are met with between albuminous and homogeneous masses. Posner found that, three days after ligature of the ureter, the kidney was distended and spotted with hemorrhages, and the examination by this method shows that the condition is due to large quantities of exudation, partly serous, partly sanguinolent, partly in process of transformation, in homogeneous masses, and situated in part within the tubules.

Litten found that if the renal artery is ligatured, the kidney in two hours is intensely congested with serous exudation, which, after the ligature is removed, and blood allowed to flow through for twenty-four hours, comes away as tubal cylinders. Chromic preparations show abundant exudation, inclosing cells, and the early stage of the formation of tube-casts can be traced as a fine network of fibres (due to the precipitation), and visible first close to the cells. From this and other experiments, by producing venous obstruction, Posner concludes that the formation of tube-casts may be regarded as independent of cell-destruction.

The subject has lately been reinvestigated, after the same method, by Litten. He finds the methods of coagulation by heat and by strong alcohol give equally satisfactory results. Having first satisfied himself that, in the animals experimented on (rabbits), the capsules around the glomeruli did not contain albuminous exudation, he tied the renal vein for two hours, and found throughout the whole cortex the capsules raised by coagulated albumen, which could be traced, in some cases, as far as the commencement of the twisted tubules. In other cases a number of red blood-corpuscles were found between glomerulus and capsule. The vessels themselves seemed to be intact, uncompressed. The epithelium of the tubules was normal, but within the tubes there was, in many places, the same material as filled the Malpighian capsule.

In another series of experiments the renal artery was tied for two hours. The structure of the kidneys was everywhere intact. Within the capsules was the same albuminous material, but in somewhat smaller quantity. Much more intense changes were found when the artery had been tied for a time, and then the blood allowed again to flow. The exudation within the capsules was much greater, so as to press the vessels away from them, and it extended into the tubules throughout their entire extent, the epithelium, however, within them being intact. The epithelium of the capsules was much swollen, and partly separated by the exudation.

It must, therefore, be regarded as certain that in mammals the albumen transudes at the Malpighian capsules—a fact which Nussbaum first demon-

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strated to be true of the frog. The question arises under what physiological or pathological conditions may the albumen transude in this situation? The transudation, Litten thinks, occurs under conditions which have this in common—that the renal vessels undergo a transient dilatation of their calibre. He believes that after ligature of the artery this dilatation occurs when the blood is allowed to flow. Thus he explains the occurrence of albuminuria after section of the vaso-motor nerves, and not after section of the secretory nerves of the kidney, and also its occurrence after some brain injuries. In all these varied states he can see only one common character, the dilatation of the vessels, and the consequent retardation of the blood-current through them. In acute inflammation he attributes the escape of albumen to the same mechanism; in chronic inflammation no doubt changes in the wall of the vessel occur. Litten, from his experiments, agrees also that the exudation of albumen is probably not confined to the glomeruli, but takes place also in the tubules.—*Lancet*, March 20, 1880.

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Treatment of Prurigo by Pilocarpine.

From the observation of the fact that sufferers from prurigo feel relief when the secretion of the sudoriparous glands is active—as, for example, in summer—O. Simon (*Allgem. med. Centr. Zeitung*) has been led to try the preparations of pilocarpine, and of jaborandi itself, in this distressing condition. A very numerous series of trials have persuaded him of the beneficial action of this means of treatment. In adults he uses a subcutaneous injection of pilocarpine, or prescribes a syrup of jaborandi. The patients, soon after the administration of the medicine, are enveloped in blankets for two or three hours. In patients suffering from psoriasis the perspiration is very scanty, while in pruriginous patients it is very abundant. The effects of this mode of treatment were, abatement of the accustomed sense of pruritus, softening of the skin, and diminished tendency to relapse. In general the case did not last longer than a fortnight, and in very severe cases three weeks.—*Dublin Journal of Med. Science*, April, 1880, from *Lo Sperimentale*, Gen. 1880.

Surgery.

Extraction of Metal from the Vitreous Body by the Magnet.

Dr. J. Hirschberg (*Berlin. Klin. Wochenschrift*, 1879, No. 46) brought the following case before the Berlin Medical Society on the 15th of October last:—

A lad sixteen years of age, when working in the smithy with his father, on the 11th September, at 8 A. M., suddenly felt that his right eye had been hurt and its sight dimmed. Having travelled six and a half hours by road and rail, he was seen by Dr. Hirschberg at half-past 3 P. M. There was a wound in the sclera, two and a half millimetres in length and one millimetre and a half above the top of the cornea, presenting some clear vitreous humour between its lips. The cornea was plaited vertically. It was at once presumed that a foreign body had penetrated into the eye. The eye having been bandaged, thorough rest in a darkened room was prescribed. In the evening, the sight was said to be much improved; the wound was closed; the cornea was clear; the aqueous humour transparent; the iris free; the pupil moderately dilated, and egg-shaped, with the point upwards: the iris was evidently dragged up to the wound, or adherent

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to the inner aperture of it; no prolapse, and normal reflexion from the pupil. A dark thread was seen in the vitreous body, tapering straight downwards from the wound. On the patient being made to look down, a pretty large piece of iron came into view, some distance behind the lens, in the lower part of the vitreous body, black, irregular in shape, sharp-edged. The optic nerve and retina were normal.

The state of things being unaltered the next morning, and not only the eye itself, but even its fellow, being thought to be in danger, the following operation was resorted to: Thorough anæsthesia having been induced, a semicircular conjunctival flap was formed inwards from the intended line of incision, and reflected back over its base towards the temple. The retractor was now inserted, and the eye, by an assistant with forceps, turned inwards as far as possible. A meridional incision four millimetres in length was made through the whole of the membranes by slow sawing movements with von Gräfe's cataract-knife behind the ciliary body in the direction of the equator, the edge of the knife being turned towards the latter. Vitreous humour showed in the wound, but did not escape. Gentle pressure on the inner lip of the wound having proved unavailing, an electro-magnet, resembling in shape the arm of a curved iris-forceps without teeth, was inserted in the wound, with its point turned towards the sclera. As no effect was obtained, the magnet was withdrawn and the incision lengthened to seven or eight millimetres with scissors. The magnet was inserted as before, only a little more deeply, and so twined as to bring its point nearer to the lower vertex of the equator of the bulb. On cautiously withdrawing the magnet, it was now found to have caught hold of a black splinter of metal, which issued with it from the eye. A pad of cotton was gently pressed upon the eye, the fading anæsthesia fully re-established, the conjunctival flap re-turned over the incision and fixed by two sutures. Both eyes were properly bandaged, and the patient was lifted into his bed. The fragment of metal was three millimetres by two by one millimetre in thickness, free from rust, with sharp and irregular edges, one side somewhat convex, the other plane, and weight twenty milligrammes.

The next day, the eye was free from irritation, T — 2, the cornea slightly plaited, the pupil contracted. On the second day, a drop of atropin solution was applied; but it was not before the evening of the third day, when the eye was able to make out the time on an ordinary watch, that the pupil became dilated. The refracting media were now found clear, and the scleral cicatrix left from the operation could be clearly distinguished. On the fourth day, the sutures were removed, and a clear bead of vitreous humour was still to be seen at the point of the sclera where the metal had entered. About a fortnight after the operation, the cicatrix was complete, the conjunctiva still a trifle swelled over the incision. The small thread in the vitreous body then still observable gave way in another fortnight, when the patient was discharged. The author goes on to indicate the exact details of the appearance of the fundus, and the visual field, which are both represented by figures, surveys the literature on the subject, in which Dr. McKeown, of Belfast, is assigned the place of honour, and winds up with a description of the magnet employed by himself. — *British Medical Journal*, May 22, 1880.

Case of Complete Amaurosis from the Use of Salicylate of Soda.

Dr. Francisco Gatti (*Gazzetta degli Ospitali*, February 29, 1880) reports a case of sudden and complete amaurosis, which lasted ten hours, and was induced by the medicinal use of salicylate of soda. The patient, a girl aged 16, was suffering from acute articular rheumatism, for which 12½ grains of the drug was prescribed every hour during ten hours. After taking this amount the articular

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pains were relieved, but the patient was seized with deafness, noises in the ears, and complete blindness. The pupils were widely dilated, and the sclerotic and cornea on each side highly sensitive. After perception of light had returned, the mydriasis still continued. The ophthalmoscopic examination generally gave negative results. Neither the urine nor the saliva yielded the characteristic reaction of salicylic acid in presence of ferric perchloride. The ocular symptoms lasted in all about ten hours, but left no permanent impairment of sight.—*London Med. Record*, May 15, 1880.

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Transparent Cysts of the Eyelids.

YVERT sums up his conclusions (*Recueil d'Ophthalmologie*, Feb. 1880) as regards these growths as follows: 1. A peculiar form of cystic tumour occurs on the eyelids, but it is decidedly rare; it seldom attains the size of a bean, and always contains a perfectly limpid fluid. 2. The most striking and constant symptom in these tumours is their transparency. 3. They have nothing in common with hydatid cysts, and are totally distinct from them. 4. Their point of origin is not, as might be supposed, in the sudoriparous glands, but the sebaceous follicles, the hypertrophied walls of which secrete a serous fluid. 5. The best treatment consists in the excision of a portion of the follicle, and cauterization of the fundus of the *cul-de-sac* with a crayon of nitrate of silver.—*London Med. Record*, April 15, 1880.

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Deaf-Mutism.

M. BOUCHERON has lately read a paper at the Paris Academy of Sciences on a mode of treatment of certain infantile cases of deafness, or deaf-mutism. The cases to which he referred are those arising from naso-pharyngeal catarrh, causing the mucus of the Eustachian tube to swell and stop the passage; the stirrup-bone, ere long, being, through pressure of external air on the tympanum, made to press strongly on the liquid of the labyrinth, injuring the acoustic nerve. M. Boucheron gives chloroform to the child, and practises catheterism, insufflation of air, and pharyngeal cauterization with a brush dipped in iodine solution.—*British Med. Journal*, May 8, 1880.

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Adenoid Vegetations in the Naso-Pharynx, and their Treatment.

Another method of removing adenoid vegetations in the naso-pharynx has been added by LANGE (*Monatschr. für Ohrenheilkunde*, Feb. 1880). Dr. Lange, formerly assistant to Dr. Meyer of Copenhagen, whose work on this subject is well known, thinks that in treating these growths it is practically only necessary to regard those situate on the roof and upper part of the posterior wall of the pharynx. He relies almost entirely on digital examination for the purpose of diagnosis in the first instance. After removal of the greater portion of the growths, the rhinoscope comes into play. Following all the more recent methods, the author recommends removal of the growths from the mouth, and uses for this purpose a ring-shaped knife, attached to a stem suitably bent. With this instrument, the author removes all the growths at one sitting, and subsequently cauterizes the naso-pharynx about six times with solid nitrate of silver, at intervals of five or six days. The removal of the growths is frequently followed by considerable temporary swelling, which renders the application of the nasal douche impossible, and great care is therefore necessary under these circumstances to prevent the fluid from entering the ears. The author has never seen any bad symptoms in the ears result from the operation. He attributes to Voltolini the merit of having convinced otologists of the necessity of being familiar with the use of the rhinoscope.—*London Med. Record*, May 15, 1880.

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Occlusion of the Larynx: Internal Laryngotomy.

Professor K. STÖRK relates, in the *Wiener Medizinische Wochenschrift* (No. 46, 1879), the case of a boy aged 7, who three years previously had diphtheria, for which tracheotomy had been performed, and he had since worn an unfenestrated cannula. Some time after the operation, he was brought to Dr. Störk in consequence of having become dumb. Laryngoscopic examination showed a normal condition of the parts as far as the interior of the larynx; beyond the vocal cords, a *cul-de-sac* was noticed. The vocal cords moved, but without sound; there was a remarkable absence of secretion. Dr. Störk diagnosed complete adhesion of the cricoid cartilage. On examination with a small tracheal speculum, a wall of mucous membrane was found to have been formed between the larynx and trachea, arching over the latter like a dome. Dr. Störk consequently resolved to perform internal laryngotomy. For this purpose he used a knife one-fifth of an inch long, set at a right angle to the hand, with which he carefully divided the adherent parts from below upwards and from behind forwards; this having been done, a specially constructed dilating apparatus was applied. There was little hemorrhage during the operation; and the only difficulty arose from the narcosis. After the operation, the laryngeal opening having been dilated and the tracheal opening closed, the patient was able to speak. —*British Med. Journal*, May 8, 1880.

A new Subcutaneous Method of Operating for Removal of Growths from the Interior of the Larynx.

A simple, and therefore excellent, plan of operating on laryngeal growths is described by Professor ROSSBACH, of Würzburg, in the *Berliner Klin. Wochenschrift*, No. 5, 1880. All the preparation required by the patient is that he shall have learned to be laryngoscoped quietly. He sits before the operator in the ordinary way, but with his head supported by a photographer's rest. He holds his tongue himself with the right hand covered with a rough well-fitting glove, and must take care not at the same time to hide the middle line of his neck by his closed hand. The operator either holds the laryngeal mirror with his left hand, or, in the case of a very manageable patient, fixes it in position in the pharynx by means of an appropriate stand. The mirror must illuminate the larynx well, and give a clear view of the part to be operated on, as well as of the lower end of the epiglottis and the anterior commissure of the vocal cords. For the operation itself, a very sharp-pointed, delicate knife, with triangular blade and smooth cylindrical shank, is held in the right hand and pushed through the median lamina of the thyroid cartilage, a few millimetres below the lower angle of the thyroid notch, exactly in the middle line, into the larynx. The precise distance of the puncture from the notch depends on the seat of the growth in the particular case, and it varies from one to five millimetres below it. The point of the knife then appears above and close to the vocal cords. There are no blood-vessels of any importance either on the anterior or posterior surface of the median lamina of the thyroid cartilage, so that no bleeding is to be feared; the hyaline cartilage also, of which it consists, is so easily penetrated even in old people, and so seldom ossified, that scarcely any effort is required to make the knife enter the larynx through it. With the laryngeal mirror the entrance of the knife can be watched, and its movements regulated with the greatest ease during the necessary incisions, etc. The patient feels nothing except the external prick; he is not conscious of the presence of the knife in his larynx, nor does it excite cough, or, as a rule, any desire to swallow. Should deglutition occur, however, it is unnecessary to withdraw the knife, and the latter should be retained between the

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thumb and forefinger, the finger resting on the larynx, so that the hand and the knife may follow the upward and downward movements of the thyroid cartilage. On the withdrawing of the knife the opening in the cartilage closes hermetically; the tiny skin-wound requires no other treatment than a small piece of plaster. A slight dull pain is all the patient feels after the operation.

Professor Rossbach uses knives of different breadths of blade according to the size of the growth to be removed. Owing to their thin cylindrical shank they can be moved in any direction, and, if necessary, can be bent to meet special cases. He thinks his method applicable to a large number of operations which have hitherto been performed by the introduction of instruments through the mouth, and its extreme simplicity seems to us to justify his estimate of it. He mentions that Dr. A. Eysell, of Halle, had previously suggested a somewhat similar plan, of which, however, he was ignorant until his colleague, Professor Gerhardt, told him of it. In any case Rossbach claims the first removal of a polypus in this way. Those interested in the operation will find some valuable hints upon its previous performance on animals at the end of Professor Rossbach's paper, which our space does not allow us to reproduce. The operating knife is also figured.—*Med. Times and Gazette*, April 10, 1880.

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Resection of the Ribs in Empyema.

In the current number of the *Birmingham Medical Review* is a paper by Mr. William Thomas, one of the surgeons to the Birmingham and Midland Free Hospital for Sick Children, on the surgical treatment of empyema, as illustrated by several cases in which resection of one or more ribs has been practised. The success recorded by Mr. Thomas is very marked. He has performed the operation nine times; four of the children have recovered with expansion of the lung and restoration of the excised rib, in three others all discharge has ceased and the lungs are in various stages of expansion; another case is "doing well," and the ninth case was almost moribund when operated on, and died six hours later from asthenia. The case of Dr. F. Taylor and Mr. G. Howse is also recorded in the paper. The object of the operation is to allow of full retraction of the ribs and efficient drainage of the pleural cavity. It is of course obvious, but yet not always borne in mind, that an empyema can never be cured unless the cavity of the pleura is obliterated by the expansion of the lung, the displacement of viscera, or the falling in of the chest wall, or all of these together. But only when the lung expands to its former size have we any right to speak of a "cure" having been accomplished; in the other cases recovery may have resulted, but the patient is sadly crippled, having a much diminished breathing power. We cannot keep this consideration too constantly and clearly in view; it is not enough to save the life in such cases, we ought also to save the lungs, and it is as much a stigma on surgery to allow a patient to recover with a collapsed useless lung, as to permit anchylosis of the hip to occur in a false position. This is not a mere quibble, for the want of a clear perception of this point leads to errors in practice which have very disastrous results: patients with pleuritic effusion are left alone so long as no serious symptoms arise, there is a long delay before the fluid is withdrawn, and meanwhile the lung is being compressed and possibly bound down, so that it can never fully expand again. We know that of late years paracentesis thoracis has become much more generally adopted and employed at an earlier period in the disease than formerly, but we want still further progress in the same direction. The main issue to consider in any case of pleurisy is the injury to the lung, and recovery with a damaged lung ought never to be looked upon as a satisfactory termination to a case. There is no period in the disease, after effusion has taken place, too early for aspiration of the inflamed pleura; there is no considera-

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tion more pressing than the speedy removal of the force compressing the lung. These being our views, we look upon such an operation as resection of the ribs as evidence of failure in the earlier treatment of the case. The removal of a portion of a rib allows freer drainage than can otherwise be obtained, and no doubt permits of a more complete recession of the chest walls than is otherwise possible, and the bone is eventually reproduced; but we must again repeat that recourse to it is an admission of failure to obtain a "cure," the effect of which is in many cases as disastrous as the saving of a life at the expense of a limb.—*Lancet*, May 22, 1880.

Antiseptic Nephrectomy for Hydronephrosis of the Left Kidney in a Young Child; Recovery.

Dr. W. H. DAY, Physician, and Mr. J. KNOWSLEY THORNTON, Surgeon to the Samaritan Hospital for Women and Children, report (*Lancet*, June 5, 1880) the following almost unique case which we transcribe in full.

A. B——, aged seven, a healthy-looking girl, was admitted into the Dorset-street branch of the Samaritan Hospital, under the care of Dr. Day, on Oct. 21, 1879, suffering from an abdominal tumour, which was first noticed when she was two years of age. No accurate history could be obtained, as the mother was dead, and the child for the last two years had been away from the father. She had three sisters and one brother living, and they were all healthy. The child had had whooping-cough and scarlet fever, but no bad effects followed either disease. At no period had she complained of any pain or discomfort in her body.

On examination there was an abdominal tumour of irregular outline, and freely movable, rather firm in some places, but elastic in others. It was particularly elastic and prominent between the umbilicus and pubis, where fluctuation was detected. The outline was not unlike that of a large multilocular ovarian cyst, and on deep inspiration it could be seen extending an inch above the umbilicus. The superficial veins were enlarged over the whole abdomen, and there was a considerable quantity of free fluid in the peritoneal cavity. There was no enlargement of the spleen or liver, which occupied their normal position. Traced backwards towards the left renal region, the tumour seemed as though it might spring from the left kidney. A coil of intestine crossed it from left to right crosswise, and then from right to left. Midway between the umbilicus and pubis there was a soft elastic fluctuant swelling to the right of the umbilicus, and between it and the right anterior spine of the ilium the note was tympanitic (cæcum). The lower ribs, especially on the left side, were much pressed outwards, and the percussion note was very resonant over both hypochondriac regions. The girth at the umbilicus was 26½ in.; on the right side it was 12¾ in.; on the left, where it was most prominent, it was 14 in. There was no pulmonary or cardiac disease. The urine was normal. It was stated that for a long time before admission the patient had only passed urine once a day, and that the quantity was small.

Many opinions were expressed with regard to diagnosis: (1) Mr. Spencer Wells thought there was distinct hydatid fremitus in the prominent part of the tumour below and to the left of the umbilicus; he thought it might be removed. (2) Dr. Champneys expressed a similar opinion. (3) Dr. Greenhalgh and (4) Dr. Granville Bantock regarded the case as of ovarian or hydatid origin. (5) Dr. Savage considered the tumour renal. (6) Mr. Thornton also thought the tumour renal, but the question of hydatid, of mesentery or omentum, ought not to be excluded. He was in favour of a careful antiseptic tapping with a fine trocar in order that the fluid might be examined. (7) Mr. Meredith considered the tumour was due to hydronephrosis, or to hydatid disease; he also advocated tapping with a fine aspirating needle. (8) Mr. Doran thought it an ovarian cyst, with the trans-

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verse colon adherent along its upper portion, but was doubtful, and advised an exploratory incision.

Nov. 4th. The bowels having been freely emptied by an enema, the child was narcotized with bichloride of methylene, and under the carbolic acid spray, Mr. Knowsley Thornton introduced a fine trocar into the fluctuating part of the tumour, midway between the umbilicus and the anterior superior spine of the ilium, when six pints and a half of a brownish-coloured fluid were drawn off, having an acid reaction and urinous odour. The puncture was dressed with carbolized gauze, and a flannel bandage applied.

On the following day the patient passed three pints of clear, normal urine, and the next day forty-four ounces. The general health was undisturbed. After this the quantity diminished to nine ounces in the same space of time, till three weeks before the operation for removal of the cyst, when twenty ounces of clear, non-albuminous urine were passed daily. On the 13th the cyst was fast filling up, and there appeared little doubt that it would be necessary to remove it.

On Dec. 14th the cyst had refilled, and the circumference of the abdomen was again twenty-six inches.

On Jan. 2d, 1880, the child was transferred to the surgical wards in Lower Seymour-street, and on the following day, bichloride of methylene having been administered by Dr. Day, Mr. Thornton, assisted by Mr. Meredith and Mr. Doran, removed the tumour by abdominal section. An incision commencing an inch above the umbilicus was carried down to its left side to three inches and a half. When the peritoneum was reached it was caught up by artery forceps and carefully divided; the cyst was exposed, and slight adhesions round the tapping puncture were easily separated by the finger, great care being necessary, as the cyst-wall was very thin. The small ovarian tapping trocar was used to empty it, and no difficulty was experienced in performing this part of the operation without the escape of any of the fluid into the peritoneum or over the incision. The cyst was found to be inclosed between the layers of the descending meso-colon, the descending colon having been pushed forward and to the right as the cyst enlarged; the sigmoid flexure was also much displaced, and lay across the lower part of the cyst, and between it and the bladder; the latter was distended with urine, and rose considerably above the pubes. Great care was required in enucleation, which was performed through an opening made in the capsule to the inner side of the descending colon. No distinct ureter could be found, but a thin cordlike structure passed downwards from the lower part of the cyst, and, becoming intimately connected with the parietal peritoneum, was lost in its reflection on to the fundus of the bladder. The cyst having been thoroughly enucleated to its base, was turned down, and the renal vein could then be *seen* and the artery *felt* pulsating behind it. A blunt aneurism-needle was passed between them threaded with a double ligature of No. 1 Chinese silk, and they were tied separately about an inch from the aorta. Another ligature of No. 2 Chinese silk was then tied round the whole pedicle on the distal side of the first ligatures, and the cyst cut away a good half inch from the ligatures. There was very little sponging necessary, even in the sac out of which the cyst had been enucleated, and none of the general peritoneum. After the sponging the parts fell very nicely together, so that on looking into the abdomen there was nothing to indicate where the cyst had been removed. Two small shreds of capsule were ligatured and cut away; all the other bleeding points were merely squeezed for a time in Wells's artery forceps. The incision was closed with No. 1 Chinese silk sutures, and the usual gauze dressing without protective applied.

The operation was prolonged by the little patient taking the anæsthetic badly, and retching a good deal, and by the care required in the enucleation. It occupied

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an hour and a half. From first to last every detail was carried out strictly according to Lister's method. At 9 A. M., half an hour before the operation, the patient's temperature was 99.4°, and twenty minutes after she was placed in bed it was 97.8°, pulse 116, respiration 28. At 11.45 six drops of laudanum were injected into the rectum, and the same quantity again at 2 P. M. At this hour three ounces of clear, pale urine were drawn off by catheter. It was exactly like that examined the day before the operation, and deposited white urates. She was sick at 2, 3.30, 4.20, 4.30, 5.30, 8, 8.30 P. M., and at midnight. At 3.30 P. M. the pulse had risen to 136, and at 9.30 to 150; respiration 32; temperature 101.6° (the highest point reached at any time during the case). At 3.30 P. M. about an ounce of urine was drawn, dusky in colour, and containing some small black clots. From this time till 8 A. M. on the following morning about an ounce was passed without the aid of the catheter every hour and a half, each specimen being bright-red, as if almost pure blood. At 5.30 P. M. a large linseed-meal poultice was applied over the right kidney. At 11 P. M. two ounces of beef-tea were injected into the rectum, with six grains of bromide of potassium; as the little patient was very restless, a similar injection was given every two or three hours during the next thirty-six hours. At 3 A. M., after the operation, rather more urine was passed quite free from blood, and containing urates as before the operation; and from this time onwards a fair quantity of healthy urine, quite free from albumen, was passed, generally from a pint and a quarter to a pint and a half, or more, in the twenty-four hours. During the first twenty-four hours the total quantity, including the bloody urine, was twenty ounces.

The patient was sick at intervals till the morning of the second day, when it ceased, and she began to take bread and milk, and milk and lime-water freely. After the urine became normal, eight drops of laudanum were given occasionally per rectum, instead of the bromide. At 9 A. M. on the first day the temperature was 98.8°; pulse 140; respiration 26. At 10 P. M., temperature 99.6°; pulse 132; respiration 16. At 10 A. M., second day, temperature 99.4°; pulse 120. At 9 P. M., temperature 100.4°; pulse 114. The bowels moved on the fourth day. All the sutures were removed on the sixth day, when the wound was found well united by first intention. From this time the temperature was normal and the pulse about 96. She was moved into the convalescent ward on the ninth day, and was soon after up and running about. She would have left the hospital for a convalescent home at Brighton on the twenty-third day, but her departure was delayed by an attack of ringworm.

Remarks.—On the day following the tapping the patient passed three pints of urine, and two pints on the second day. This shows that there was some sympathetic irritation of the right kidney. The excessive congestion of this remaining kidney after the major operation may then have been to some extent due to the same cause. The bloody urine was, however, highly charged with carbolic acid, and remained for some days free from putrefaction, while some of the clear urine standing beside it was putrid in twenty-four hours. Both specimens were in similar open vessels, and both were tested from time to time by odour and microscopic examination for bacteria. The ordinary urine was highly offensive, and swarmed with bacteria; the bloody urine got gradually darker in colour, but remained free from odour, and several days later contained no bacteria, but some penicillium.

It seems to us probable that the extreme congestion of the kidney was due rather to the carbolic acid than to the sympathetic irritation. It is obviously difficult to assign to each factor its share, but we know that there is often considerable congestion of the kidneys after ovariotomy, and that this has been decidedly increased in severity since the introduction of Listerism in abdominal surgery.

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The cyst was shown at the Pathological Society as a fresh specimen, and we therefore reserve all description of it for the "Transactions." The patient was shown in good health some weeks after the operation, at a meeting of the Medico-Chirurgical Society. The extremely thin condition of the front of the cyst wall seems to us fully to justify our decision that the time for operation had arrived: a very slight accident would have been sufficient to cause extravasation of the cyst contents into the peritoneum.

There are three very important points worthy of special attention: 1. The safety of the antiseptic exploratory tapping, evidenced by the absence of all subsequent constitutional disturbance. 2. The rapid and satisfactorily convalescence after so prolonged and serious an operation on a young child, also greatly due to the antiseptic precautions. 3. The speedy disappearance of blood and albumen from the urine after such a severe congestion. The urine was frequently examined during convalescence both by tests and the microscope, and was always quite normal.

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Hydronephrosis; Nephrotomy; Recovery.

Dr. THOMAS SAVAGE, Senior Surgeon to the Hospital for Women, Birmingham, records (*Lancet*, April 17, 1880) the following case:—

Mary N., aged forty-six, married twenty-one years, with five children, came as an out-patient October 28, 1879. She had noticed a lump in her abdomen for a year and a half; is quite regular, the last period being a fortnight ago. Has suffered from prolapsus uteri, for which she has worn various pessaries. She is thin, and looks careworn.

On examination there was a tumour about the size of a fœtal head, occupying the right lumbar and umbilical regions. It was elastic, very movable, and painless, clearly a cyst, and appearing to spring from the right kidney. The urine was examined several times, and found to be normal. There was no history of pus or blood in the urine, nor of injury in any way, and there was no appearance of malignancy, but there was an indistinct history of renal colic, to which the patient referred as having occurred about three or four years ago, and which was marked by intense pain on the right loin, frequent micturition, and the necessity for constant application of hot fomentations. On repeated examinations, seeing that it sprang from above and had clearly no reference to the pelvis, that pressure on the right kidney pressed it forwards, and that there was resonance on percussion over one portion (the lower) of it, the tumour was diagnosed as a hydronephrosis, with a fairly long mesonephron. Very curiously, it was said to become smaller at the menstrual periods. As time went on the patient was sure the abdomen was enlarging, and this, together with the fact that she was getting thinner, and was now (January, 1880) quite unable to do her household work, induced a recommendation to come into hospital and submit to an attempt at removal, or at all events, to allow us to make an exploratory incision.

On January 16, the operation was performed, which consisted of a median incision, extending from about two inches above to two inches below the umbilicus. The tumour now exposed was seen to be cystic, and was covered by the upper layer of the meso-colon. It was tapped, giving exit to a clear, watery fluid; unfortunately this got mixed with blood, and was thrown away, and so neither the quantity nor the quality could be ascertained. When the hand was passed down to the base it was found that the attachment was very broad—*i. e.*, thicker than one's wrist—and it appeared impossible to tie the artery and the vein, as also to tie the mass in bulk, at so great a distance, deep in the abdomen, and close to the spine. The wall of the cyst on the outer and front part was made up of true renal structure—*i. e.*, the dilated pelvis of the kidney, in which were seen the

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enlarged calyces and papillæ. The other part of the cyst-wall was evidently made up of two portions: an outer, being a continuation of the capsule of the kidney; and an inner, apparently derived from the lining of the enlarged pelvis. The hand was passed into the cyst in search of a calculus in the ureter, but none was found, and it was then sponged out with carbolic solution. A wire clamp was applied about the middle of the collapsed cyst, and about one-half of the distal portion—*i. e.*, about one-fourth of the whole mass of the cyst—was cut away, leaving one-fourth still attached to the distal side of the clamp. This large mass was left for the sake of security against slipping. Perchloride of iron was applied to it, and carbolized lint applied as dressing. About the fourth day afterwards there was noticed a slight welling up of clear fluid in the centre of the stump, which appeared likely to eventuate in the presence of a persistent urinary fistula. The clamp was cut away on the twenty-third day, and the sloughing stump gradually cleaned, so that the patient left the hospital on March 1st.

When seen again on March 15, at my house, the wound had cicatrized with the exception of an area about the size of a threepenny piece, at the bottom of which was a sinus, into which a probe passed for two inches directly backwards and without pain or bleeding. The patient stated that there was a daily discharge of clear fluid of from a tea- to a tablespoonful in quantity. She appeared to be quite well in herself, and there was no tumour to be felt. She expressed herself as being better, and much more comfortable than before the operation.

Remarks.—The surgery of the kidney has of late attracted a considerable amount of attention, more especially with regard to the subject of nephrotomy; and several cases have recently occurred which tend in the direction of making it a justifiable and recognized operation. This has no doubt been brought about by the greater safety of abdominal section now compared with what formerly obtained. It may be deemed suitable in some few cases, in the early stages, of encephaloid and sarcoma; in hydronephrosis, as in the cases related; and in pyonephrosis, where the patient is in a state of hectic, or rather, before that stage, if possible, has come on; and for the removal of calculus in the ureter or in the pelvis.

There appear to be certain difficulties connected with the operation which have occurred to my mind since I operated on the above case. First, there is the thickness of the so-called pedicle or base, which at so great a depth may prove a considerable hindrance to successful ligature and subsequent cutting away. Of course the clamp is out of the question for the entire removal of the kidney, as the mesonephron would seldom, I imagine, be long enough to be brought up to the abdominal wall; and kidney tumours are often very deceptive in this respect, appearing to be freely movable in all directions nearly all over the abdomen, but found to be in reality rather firmly bound down. The clamp could be applied only to the tumour itself, as in my case, and then it is a question how far the part of the cyst left attached may not continue to be a secreting surface, and so the patient, perhaps, be no better for the operation, or leave a fistulous tract, which, though relieving a hydronephrosis, is, to say the least, not a pleasant accompaniment to one's ordinary life troubles. Secondly, there is the difficulty, I imagine, in many cases of having to pass a ligature round so short a vessel as the renal artery and vein are; and, thirdly, there is the question whether, when a ligature has been passed, the shortness of the vessel, and therefore the close proximity of the ligature to the great vascular trunks, will not prevent thrombosis occurring in the proximal side of the ligature, and hence permanent occlusion. I am not prepared to answer these points, but they are such as have occurred to me in thinking on the subject.

The cases reported by Simon, Czerny, Martin, Zweifel, and more recently by

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Knowsley Thornton, and A, E. Barker, will do much to bring nephrotomy and nephrectomy before the profession; and the foregoing case is recorded with the same view.

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Transverse Perineal Urethrotomy in Obstinate Strictures.

Practical surgeons have long been aware of the difficulties attending external urethrotomy in cases of obstinate and old-standing stricture. Dr. RUGGI (*Bulletino delle Scienze Mediche*, February, 1880) gives particulars of two cases in which, unable to find the urethra by the ordinary longitudinal incision, he had recourse to a transverse one, with complete success. The first case occurred in an individual, aged 54, whose urethra from the meatus to the bulb was impermeable to the smallest bougie. The author, considering that in such a case Syme's operation would be unsuitable, laid bare the perineal triangle formed by the corpora cavernosa, cut through the soft portions at the base of this triangle, carrying his knife parallel with the fascia media, and taking care not to go sufficiently deep to divide the dorsal vein of the penis. The urethra was at once recognized by the thickness of its walls, though the canal was so contracted as scarcely to allow the smallest-sized instrument to pass into the bladder. In the second case, the author had succeeded in passing a small bougie as far as the seat of the stricture, but here it doubled upon itself, and could not be made to proceed further. The patient was aged fifty-three, and his perineum was the seat of several fistulæ. In this case, the perineal incision was crescent-shaped, and measured ten centimetres. The appearance of the parts was so altered that the longitudinal incision did not enable him to find the urethra; this, however, he discovered readily enough on making a large and deep transverse cut. The portion of urethra anterior to the wound was dilated from behind forwards by the urethral dilator, and a gum-elastic catheter with its stylet by this means passed. The perineal fistulæ were slit up, and as much of the brawny cicatricial tissue removed as possible. The patient left the hospital, after a stay of two months, perfectly cured. The author gives certain directions for this operation; he makes his external incision, guided by the raphe if this still exists, if not, then as nearly as possible in the position where he thinks it ought to be. Hemorrhage is best restrained by Péan's hæmostatic forceps. When he considers that the level of the urethra has been reached, he enlarges the margins of his incision, and changes it from a longitudinal into a transverse one. He points out that in this procedure there is little danger from hemorrhage from either veins or arteries, inasmuch as the median artery of the perineum, the arteries of the bulb, and other vessels, have, in the majority of cases, been obliterated by the periurethral infiltration. Should hemorrhage, however, supervene, the temporary application of the hæmostatic forceps will always be found sufficient to check it.—*London Med. Record*, May 15, 1880.

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Inguinal Castration.

The following *résumé* is given in the concluding portion of an original memoir on castration in inguinal ectopia by MONOD and TERRILLON of Paris (*Archives Générales de Médecine*, Nos. 2 and 3, 1880). 1. Inguinal castration is not a dangerous operation, and in a large majority of cases the patient recovers. 2. Peritonitis is not, as has been maintained, an inevitable and constantly fatal consequence of the operation. It is, indeed, an unfrequent result. It was observed but in three of fifty cases, and in one only of these was it fatal. 3. The indications of inguinal castration need not sensibly differ from those of scrotal castration. 4. In cases of tumour, the operation may be practised with less hesitation, since degeneration of the misplaced gland is most frequently of a cancerous

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nature, and the inguinal testicle is in all cases incapable of generative function. 5. The operation could, and indeed should, be performed at an early period, with the hope of preventing a relapse, which hitherto has been of almost constant occurrence. 6. Inguinal castration is indicated when the misplaced testicle is painful or when it is the seat of serous or repeated inflammatory affections (pseudo-strangulation). The inutility of the organ with regard to its function, is a point in favour of intervention. 7. The operation is an easy one, and does not, as a rule, need the employment of any special proceeding.—*London Med. Record*, May 15, 1880.

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On the Treatment of Lateral Curvature of the Spine by Steel Supports, Plaster-of-Paris Jacket, and the Poroplastic Jacket.

At a late meeting of the Royal Medical and Chirurgical Society (*British Med. Journal*, May 29, 1880), Mr. Wm. Adams read a paper on this subject. He alluded to the great change in the treatment of curvatures of the spine, both angular and lateral, during the last three years, in consequence of the method introduced by Professor Sayre of New York, *i. e.*, the application of the principle of extension, by suspending the patient from the head and arms, and then applying a plaster-of-Paris jacket during suspension. The author did not propose to speak of angular curvature from Pott's disease, further than to say that it was in this class of cases that the advantages of the plaster-of-Paris jacket were most conspicuous; and his experience led him to confirm all that Professor Sayre had claimed for it; but in the treatment of lateral curvature, Mr. Adams differed from Dr. Sayre, and believed the plaster-of-Paris jacket to be as useless and injurious in this class of cases as it was useful in cases of angular curvature.

For practical purposes, the author arranged cases of lateral curvature in three classes, viz., 1. Physiological curves; 2. Confirmed structural curves; 3. Commencing structural curves. In forming a diagnosis between these three classes, the importance of the stooping position as affording evidence of the existence of rotation of the bodies of the vertebræ was particularly insisted upon, attention being directed to the symmetrical relations or otherwise of the angles of the ribs in the dorsal region, and of the transverse processes in the lumbar region, rather than to the spinous processes, the apices of which might preserve their normally straight line in relation to one another, without any lateral deviation, whilst rotation of the bodies of the vertebræ might have taken place to a considerable extent, rendering the case incurable. This fact was illustrated by a specimen exhibited to the society by Mr. Adams, and described in a paper published with illustrations in vol. xxxvii. of the *Transactions* of the Society. In the cases of commencing structural curve, in which probably the intervertebral cartilages only had suffered from unequal compression, arranged in the third class, and forming an intermediate group between the first and second classes, the spinal curvature was much more apparent in the standing than in the stooping position; although, in the stooping position, it did not completely disappear, as in the physiological curves. Some evidence of commencing rotation was afforded by a slight posterior projection of the angles of the ribs on one side, and depression on the other; and a similar deviation as regards the transverse processes in the lumbar region, when the patient was examined in the stooping position.

With regard to treatment of cases in the first class, or physiological curves, no mechanical treatment by any form of spinal support should be given, but reliance should be placed entirely upon physiological means, such as gymnastic exercises, partial recumbency, and attention to the general health. In some cases, an elastic brace attached to stays might be used. In the second class, of confirmed

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structural curves, mechanical support of some kind must be resorted to, and continued during the period of growth, in the hope of preventing increase and obtaining some improvement in the curvature; but confirmed lateral curvature, whether slight or severe, with its adapted series of structural changes, was essentially incurable. The most efficient retentive spinal support was an instrument made with a pelvic belt and spring plates attached to vertical bars at the back, without any mechanism requiring alteration by the surgeon. In some favourable cases for improvement, the stronger spinal instrument, with steel plates attached to levers, and adjusted by rack-and-pinion movements, might be used with advantage. Sayre's plaster-of-Paris jacket had been largely employed in these cases; but from what the author had observed in the practice of others, he condemned its application on the grounds that it failed as a curative agent, the gain in height by extension being quickly lost; that it weakened the spinal muscles by its constant use, and hindered gymnastic exercises; that it restrained respiratory movements, and prevented active exercise; and that it was an unnecessary restraint at night, and interfered with bathing and cleanliness. The poroplastic jacket, which, when softened by steam, was applied in the same way as the plaster-of-Paris jacket during suspension, was free from the disadvantages of the latter, as it could be removed at night, or at any time for the purpose of gymnastic exercises, etc. It acted as an efficient and light retentive support in many cases of incurable curvature. Commencing structural curves formed the only curable cases of lateral curvature; and for these the author recommended a combination of mechanical support, gymnastic exercises, and partial recumbency. By this combination of physiological and mechanical means, the further progress of curvature would be arrested, and the best opportunity afforded for recovery from such slight structural damage as might have already occurred.

Mr. BRYANT said that Mr. Adams's observations were consonant with what was felt by most surgeons. On one point, however, there might be difference of opinion, viz., as to the time when curvature ceased to be curable by physiological means, and passed into the incurable stage, requiring artificial supports. He would delay assuming the commencement of the incurable stage as long as possible. In many cases of lateral curvature, recovery took place in a remarkable degree. He approved of the means of diagnosis recommended by Mr. Adams. He had been accustomed to examine the patients in the stooping position, with their hands on the back of a chair. He agreed that the plaster-of-Paris jacket was not fitted for lateral curvature; though in some rare instances, of which he had seen one, it was the only thing that would support the patients. He would even discard the iron apparatus. The poroplastic jacket was preferable to any other; and the addition of steel bars to it, as recommended by Mr. Adams, was no doubt an advantage.

Amputation in the Aged.

In the *Centralblatt für Chirurgie* for January 10, Dr. MAX OBERST communicates a paper detailing the results of the amputations performed in Prof. Volkmann's clinic at Halle, upon persons of more than fifty years of age. Until recently, he observes, the generally admitted maxim, founded on long experience, prevailed that the results of operations were influenced to a great extent by age; and those performed in old persons turned out much more unfavourably than those which were performed in the bloom and vigour of life. The condition of the cellular tissue exposed it to phlegmon, while the unfavourable circumstances of the circulation in the aged led to gangrene of the flaps, and consequent putrefactive infection. Some surgeons laid down the diminished power of

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resistance and the increased "vulnerability" of old age as contraindications for the operation. It is only since the introduction of the antiseptic system that the erroneousness of these views has been shown, by proving that the age of the patient exerts no influence on the course or issue of amputations, providing that two circumstances be certainly avoided—the septic process and the septic fever arising from it, and a great loss of blood. During the vital energy of youth both sepsis and loss of blood, to a certain extent, can be resisted; while a small amount of these may be too much for the aged, breaking up their strength and leading to a rapidly fatal termination. So that if we wish to place all ages on an equality in relation to recovery after amputation, we must therefore guard effectually against the origin of the septic process and a considerable loss of blood. Both of these we are now happily able to do by means of the Listerian treatment of wounds and the application of Esmarch's bandage.

In proof of what is advanced above, statistics of the Halle clinic may be cited, comparing the results of amputations treated antiseptically, without reference to age, with those which were performed on persons above fifty years old. Of 220 patients upon whom amputation has been performed since March, 1874, 9 died, or 4.1 per cent.; and of the 48 patients who were more than fifty years of age, 2 died, or 4.17 per cent. In other words, the results, as life was concerned, were not influenced by age. Of these 48 patients, 30 were between fifty-one and sixty years of age, 13 between sixty-one and seventy, and 4 between seventy-one and eighty. One patient upon whom amputation of the thigh was performed, and who recovered, was eighty-four years old. Of the 48 amputations 7 were of the forearm, 6 of the arm, 1 disarticulation of the shoulder, 7 partial amputation of the foot, 13 of the leg (with two deaths), and 14 of the thigh. In one of the fatal cases, amputation of the leg for senile gangrene (aged seventy-four), death was caused by tetanus, a complication with regard to the prophylaxis of which we still are powerless. The second death occurred after amputation of the leg for injury in a man (aged fifty-six) addicted to the use of alcohol. He died, with the wound in a completely normal condition, sixty hours after the operation, without ever having completely recovered from the narcosis. The course of the wound in all the cases was unattended with reaction, no phlegmon, suppuration of bone, or phlebitis occurring. In one-half the cases absolute union by the first intention took place, and in the remainder union was delayed by slight gangrene at the edges of the flaps or by small suppurating fistulæ.

In the above comparison there have been excluded complicated cases in which amputation has been performed during existing sepsis, amputations coexisting with other serious injuries, double amputations, cases in which the patients have died of diseases which certainly had no connection with the operation, and hip-joint operations.—*Med. Times and Gazette*, May 15, 1880.

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Incomplete Lateral Dislocations at the Elbow.

In a contribution on incomplete lateral luxation at the elbow (*Centralblatt für Chirurgie*, No. 9, 1880), Dr. OTTO SPRENGEL, of Halle, states that the frequent occurrence of this form of injury has never been fully recognized. In the majority of cases the luxation is not diagnosed, and consequently not reduced; and the subsequent treatment is often so unsuitable that the patient retains a more or less stiffened, and, not unfrequently, a completely ankylosed joint. The bones of the forearm may be displaced either to the outer or to the inner side. In the former case, the greater sigmoid cavity surrounds the capitulum instead of the trochlea, and the head of the radius rotates freely in the position it occupies in luxation outwards. In partial luxation inwards the head of the radius is in con-

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tact with the trochlea, and the margin of the sigmoid cavity stands away from this articular surface. The internal condyle of the humerus is completely or almost completely covered by the olecranon, whilst there is abnormal prominence of the external condyle. In luxation outwards the most prominent sign is displacement of the head of the radius, the articular surface of which can be readily felt. On careful digital examination of the joint, a portion of the trochlea may be made out near the inner condyle. The diagnosis is not usually attended with difficulty, but when the patient is very young, and the injured joint is much swollen and bruised, it will be necessary to make the examination under chloroform. Which of the two forms of partial luxation, the outer or the inner, occurs more frequently has not yet been determined. According to Hahn, of Stuttgart, who was the first surgeon to direct attention to the frequent occurrence of partial lateral luxation at the elbow, the displacement of the bones of the forearm is almost always to the inner side. Of five specimens of lateral luxation, removed by resection of the elbow, in consequence of ankylosis, Hueter found in all that the displacement had been to the outer side. Volkmann found external displacement in all the seven cases of partial lateral luxation of the elbow that came under his notice in 1873. An interesting complication of partial luxation intervals was first described by Hueter, who in each of his five specimens found that the inner epicondyle had been broken off, and that it rested in the groove of the trochlea, so as to form a serious impediment to reduction. Dr. Sprengel reports two interesting cases from the clinique of Professor Volkmann; one a case of old luxation of the elbow inwards, with ankylosis of the joint, which was treated by resection; the other a case of luxation outwards, in which, owing to secondary perforation of the integument, the condition of the injured joint and the altered relations of the bones could be directly observed.

The patient in the first case was a man, aged 25, who seven months previously, when travelling in South Africa, far from surgical aid, had received a severe injury to the left elbow through the overturning of a wagon. After the gradual disappearance of a large swelling about the seat of injury, the joint became stiff, and the forearm quite useless. On his return to Europe there was found to be abnormal prominence of the external condyle of the humerus. The internal condyle was covered by the olecranon, and could not be felt. At the request of the patient, the ankylosed elbow was resected. Subsequent examination of the removed joint confirmed the previous diagnosis of partial luxation inwards. The capitulum was apposed to the trochlea, and the ulna had been removed so far inwards that nearly half the sigmoid cavity remained free from contact with this articular surface. On this free portion of the sigmoid cavity, and connected with the articular cartilage by fibrous tissue, was a piece of bone detached from the epicondyle. Firm fibrous adhesions bound together the opposed surfaces of the humerus and the bones of the forearm. A girl, aged 7, received an injury to the elbow, which was diagnosed as fracture, and treated by the application of a gypsum bandage. On the removal of this bandage five weeks afterwards, a large opening was found in the integument, through which the inner condyle and a portion of the inferior articular cartilage of the humerus protruded. The head of the radius could be plainly felt below the external condyle, the ulna had been displaced outwards, and the outer half of the sigmoid cavity embraced the capitulum. The luxation was reduced under chloroform, six weeks from the date of the injury. Before the bones were replaced in their normal position, most of the injured joint could be exposed to view, through forcible abduction of the forearm, and still further protrusion of the inner condyle through the wound.

From 1873 to 1879, thirty-two cases of partial lateral luxation at the elbow were observed in the Halle surgical clinic. There can be no doubt, Dr. Sprengel

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states, that Hahn was quite right in his opinion that this form of injury is of very frequent occurrence, especially in childhood. In eighteen of the twenty-one cases recorded by Hahn the patients were children. Of the subjects of the thirty-two cases collected by Sprengel, four were adults and twenty-eight between the ages of two and sixteen years. The injury was an inward luxation in twenty, and an outward luxation in the remaining twelve cases. In fifteen cases the lesion was quite recent; in each of these the luxation was reduced, and almost always after the administration of chloroform.

The usual method of reduction consisted first in bending the forearm laterally, so as to increase the extent of the displacement. By next moving the limb to an opposite position, and through direct pressure on the joint, the luxation could be reduced in most instances without much difficulty. In one only of the seventeen cases of old luxation could the bones be replaced. This was an instance of luxation inwards of eight weeks' standing. In the remaining cases the main object of the treatment was the removal of the ankylosis, or at least an improvement in the condition of the joint. In two cases of old luxation inwards, in which reduction could not be effected, the functions of the injured joints were almost completely restored after a treatment consisting in forcible rupture of adhesions and passive movements of the limbs. In some of the remaining cases a fair extent of movement was thus attained, whilst in others the ankylosis was too complete to be relieved by any treatment short of resection of the joint.—*London Medical Record*, May 15, 1880.

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Subcoracoid Dislocation of Humerus without Rupture of Capsule.

Mr. Frederick S. Eve describes the following case of subcoracoid dislocation of the humerus without laceration of the capsule, and with an indentation on the posterior surface of the head of the humerus; and made some remarks on the mode of production of fracture of the anatomical neck with dislocation.

Thomas B., aged 36, was knocked down by a train, while at work on the line. On admission to St. Bartholomew's Hospital, he was found to have sustained a subcoracoid dislocation of the right humerus, presenting the ordinary characters. The dislocation was readily reduced by traction with the heel in the axilla. He died twelve hours after the accident, from injuries to the thorax At the *post-mortem* examination, except some laceration of the lower part of the deltoid, the muscles of the shoulder were found to be not damaged. The joint was unopened; but, on incising the capsule, it was found to have been detached from the anterior margin of the glenoid cavity, but remained continuous with the periosteum. On the posterior surface of the head of the humerus, at the margin of the articular cartilage, a deep vertical indentation or groove was seen, into which the anterior margin of the glenoid cavity accurately fitted. Mr. Eve said that the injury was probably produced by direct violence. He had been unable to find on record a single case of traumatic dislocation in which the joint was not opened. The groove or indentation was, doubtless, from its position and shape, produced by the forcible impact of the humerus against the anterior margin of the glenoid cavity. Malgaigne, who mentioned two specimens of old dislocation forwards in which somewhat similar grooves had been formed by attrition, thought that they were sometimes produced as in the case related (*Fractures et Luxations*, p. 496). An easy explanation of the mode of production of fraction of the anatomical neck with dislocation of the head, was suggested by this case, for, if the blow had been sufficiently forcible, the head would have been chipped off by the anterior margin of the glenoid cavity, and would then have been displaced forwards. An explanation was also given of the cases of impacted fracture of the anatomical

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neck, with rotation of the head of the humerus on its axis, which was borne out in several particulars by the two cases recorded by Mr. R. W. Smith (*Fractures and Dislocations*, pp. 196 and 197). In both these, the head was displaced forwards.—*British Med. Journal*, May 15, 1880.

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"*Bone-setting.*"

At a recent meeting of the Clinical Society of London (*Lancet*, April 17, 1880), Mr. MARSH reported the following cases of bone-setting:—

No. 1. A countryman, aged fifty, dislocated his shoulder. The dislocation was at once reduced, and the arm bandaged to the side. Nine weeks afterwards he came to London for advice. It was found that the limb was so stiff that he could not move the elbow more than two or three inches in any direction; and any movement, whether on his part or during examination, produced great suffering; and he complained of constant severe aching from the shoulder to the elbow. It was noticed, however, that the joint was quite free both from heat and swelling. When he had taken gas the scapula was fixed, and the humerus was fully rotated on its long axis in the glenoid cavity, and then carried, in a series of short jerks, through all its natural range of movement. Numerous adhesions around the joint were felt to give way. He now lost much of his pain, and could move his arm freely except in an upward direction. A fortnight later the arm was carried, while he was under gas, freely above his head; after this all his pain ceased and he recovered the full use of his limb.

No. 2. A man, aged twenty-four, in jumping from a cart twisted his foot under him. Great pain and swelling followed, and the limb from the instep to the middle of the calf came out, he said, "all black and blue." He was laid up for a fortnight, and then took to walking with a stick. Eight months afterwards he came to St. Bartholomew's Hospital. The joint was still swollen, and the seat of severe pain if weight was thrown upon it. He had gone from hospital to hospital, and been liberally supplied with bandages, elastic stockings, liniments, and the inevitable tincture of iodine; but he got no better. The ankle was found free from unnatural heat, indeed it was unnaturally cold; the skin was bluish and shiny, and the outlines of the joint were obscured by brawny swelling. The heel was a little drawn up, and flexion and extension were almost entirely lost. He took gas, and the joint was carried by short jerks through all its natural range. Numerous adhesions in the sheaths of the surrounding tendons were felt to give way. Within an hour he walked freely about the ward, and the next morning walked from Hackney to the hospital and reported himself ready to go to work on the limb. Six months later he came with the ankle again out of order. He said he had been quite well till three months before, when the joint had become painful and weak. On inspection, nothing could be found amiss, and he was advised to have the part strapped, and to rest it. He, however, said he was sure if it were "bound" it would be all right. Gas was given, and the joint was carried into full extension and full flexion. During flexion some slight adhesions were felt to give way. He wrote next morning to say that he had been walking on the limb, and found that he could now do so without either pain or limping.

No. 3 was a case of a similar character. A man, aged forty-five, could bear no weight on his ankle nine months after a severe sprain. The joint was quite free from heat. All his symptoms disappeared when the ankle was flexed and extended under gas; and in less than a week he was quite well.

No. 4. A lad, aged seventeen, of strumous family, was reported to have hip-disease. He could bear no weight on his limb, and the thigh was flexed,

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abducted, and rotated outwards. There was deep-seated pain at the back of the joint on any movement, and tenderness on pressure in this situation. There was no swelling. On examination, it was found that the hip-joint was sound, but it was believed there was strumous periostitis of the innominate bone beneath the external rotator muscles. He was told to rest, to have a course of blisters, and to take cod-liver oil. Three months later, as he was no better, he was taken to a bone-setter, who moved his limb. After this he lost all his pain, and in a week was "all right." Just twelve months later, having in the interval been quite well, he was, on rising quickly from his chair, seized with his old trouble. He had great pain, and felt sick, and the limb became instantly locked and intensely painful, if any weight was thrown upon it. On examination, the thigh was found flexed, abducted, and rotated outwards; movement at once produced painful spasmodic contractions of the muscles, and there was excessive pain on pressure over the sciatic notch. He was put under gas, and the limb was gently carried through its complete range of flexion, extension, abduction, adduction, and rotation. Directly afterwards, though nothing seemed to give way, or to slip, he lost his pain, and he could freely move his limb. He has had no relapse.

Mr. Marsh remarked that he had brought the subject of bone-setting forward because, undoubtedly, there were a numerous set of cases which forcible movement could speedily cure, but which had not hitherto been treated as commonly as was desirable by this means. These cases, as they made but little progress under the routine treatment of rest, liniments, and elastic stockings, frequently fell into the hands of bone-setters, by whose manipulations many of them were cured. He alluded principally to cases in which adhesions had formed in or around joints, otherwise sound, as the result of injury or inflammation. Sir James Paget was the first to draw attention to this subject in a clinical lecture given as long ago as 1867, and since published in the first and second editions of his "Clinical Essays and Lectures." In this essay the principles of forcible movement as a means of treatment were very clearly and most fully laid down, and were rendered all the more distinct by being brought into contrast with those which regulate the use of perfect rest so essential for joints which were the seat of inflammation, especially of strumous disease. Displacements of cartilages and slipped tendons might be, and doubtless sometimes were, put right by bone-setters; but he believed the cases of adhesions—especially such as occurred after an injury outside a joint, which itself was healthy—afforded by far the most numerous instances of improvement after forcible movement, and he expressed his conviction that they were much more frequent in practice than many had supposed.

After referring to the classes mentioned by Dr. Hood in his lectures, the author stated that all he had observed led him fully to accord with the teaching of Sir James Paget, that when joints after injury have remained stiff, "weak," and painful, and yet free from abnormal heat, beyond the usual period of convalescence, and when they had no history of previous disease, and when a careful examination could detect no evidence of any of the diatheses, such as struma, or severe gout or rheumatism, the patient should be put under gas, and the limb should be carried in all directions through its full range of movement. As to the movement of particular joints, the author had seen good results in the shoulder, the finger joints, the knee, and the ankle. He had not used the method in either the elbow or the hip, having met with no cases which seemed suitable for it. In conclusion, he stated that, if synovitis had been present, movement must be very cautiously employed. In two knee cases lately under observation, in which synovitis had subsided for eight or nine weeks, and the joints had become per-

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fectly free from swelling and abnormal heat, a renewed attack of inflammation, with heat, pain, and considerable effusion, had followed the manipulative treatment.

Mr. HULKE said they were much indebted to Mr. Marsh for bringing this very interesting subject before the Society. It was an opprobrium to surgery that so many people sought advice from bone-setters, not that patients could be prevented from sliding away, but because it was notorious that these empirics were or are in the habit of extracting written guarantees from their patients before proceeding to interfere with them; and thus the bone-setter, having shielded himself from the possible event of malpraxis, promises everything. To show how even intelligent people are blinded by the statements of these men, Mr. Hulke mentioned that he was consulted by a lady who had an enlarged bursa over the ischial tuberosity—a stiff hip-joint compelling her always to sit sideways on her chair. He explained the nature of the case, but the patient was persuaded to go to a bone-setter, who, after giving her oils for inunction, proceeded to put the "bone" in, which he did so effectually that the patient's husband declares that he "saw it go in!" He had no doubt some of the cases treated in this way were instances of adhesions, as Mr. Marsh had said, and the occurrence of such adhesions was long ago pointed out by Bonnet of Lyons. He (Mr. Hulke) had been personally the subject of such a condition. When in the Levant he fell over some rocks and injured his knee, which became acutely inflamed. The acute attack passed away, and left him with a stiff joint, so that he could not walk without support. Falling one day, his knee was bent under him, and, as he supposed, the adhesions must have given way, for on rising he found that he had regained free use of the joint, and could walk well without his supports; so that he thought there were such cases, which admitted of rapid cure when there was no actual disease of the joint. But, he added, we hear only of the benefit done by "bone-setting;" its disasters are carefully concealed. He had seen such disasters—often very grave mischief indeed; and more than once he had to excise a joint damaged from the rough usage it had suffered. One case he knew of, where there was disease of the shoulder and sinuses around the joint; the bone-setter broke down the adhesions, rekindling the inflammation, and the result was the death of the patient. If such cases could be published in their bare truth, the law would hardly shield the author from libel.

Mr. JOHN WOOD said there were cases in which the adhesions were outside the joint, especially the shoulder. A blow or injury on the deltoid was apt to be followed by great pain, lasting for months or even years. In such cases forcible movement was most successful, and the interpretation was that the subdeltoid bursa was inflamed and adherent to the muscle—a condition he had often found on dissection. Such cases were cured by manipulating the limb in different directions, or by acupuncture. But occasionally, after temporary relief, the pain returns. Where the articular cartilages are the seat of adhesions, such manipulative treatment was less likely to be permanently successful. Some of the cases of so-called misplacement of tendons were, he thought, really instances of inflammations of the sheaths of the tendons. The case which Mr. Marsh thought was one of displacement of the obturator tendon, was more likely an instance of effusion into the bursa in this situation; for it was difficult to see how the tendon could slip out of its groove; and the procedure adopted probably caused the rupture of the enlarged bursa. He had seen great mischief due to bone-setters, and this mainly in cases of hip-disease; and he would warn surgeons in such cases of the impropriety of attempting too early movement, lest inflammation of the bone be again set up. He had thus seen very serious symptoms started by movement attempted twelve months after the primary inflammation had subsided.

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In old subjects, with tough and extensive adhesions, he had repeatedly seen fracture take place from the attempt to break down adhesions. "Sudden jerks," then, were to be deprecated; but gentle and slow movements, gradually increased in range, should be the plan followed. Not long ago he saw a lady who had anchylosis of both knees from rheumatism. Gentle manipulations succeeded in breaking down the adhesions in one knee; but in the other (which was more firmly anchylosed) the ligamentum patellæ gave way. The smooth porcellanous character of the ends of the bones, denuded of cartilage, could be felt; and in so advanced a case he was sure breaking down the adhesions did but little good. The ruptured ligamentum patellæ healed, but the stiffness returned to the joint. There was another class of cases out of which bone-setters made much capital—viz., cases of "hysterical spine"—of which he related an instance where a bone-setter, pretending that the patient had twisted her spine, proceeded to manipulate, and cured the patient at least for some months of the pain from which she had long suffered. It was just possible, of course, that in that case one of the little interspinal muscles had been displaced, and that it had been reduced by manipulation; but he was inclined to think that in the majority of cases hysteria was the real cause of the pain, and that the cure was attended by the deception of the patient on the one hand, and the bone-setter on the other.

Mr. T. SMITH asked whether Mr. Marsh advocated these measures for the relief of stiffness in a limb following union of fractures. He was inclined to believe, with Mr. Wood, that adhesions were often outside a joint, and he had followed the procedure in desirable cases of the class pointed out by Sir James Paget, Mr. Wharton Hood, and Mr. Marsh. In six cases of Colles's fracture at periods varying from six weeks to three months, where the fracture seemed to have united badly, he had broken down adhesions of tendons by free and forcible movement. In no case had any serious disturbance followed; in two or three the manipulation was repeated more than once, and was followed up with shampooing and friction. In one case, where the whole hand was stiff, he began by liberating two fingers, and then passed to the others, taking each in turn. The same methods were applicable to the after-treatment of other fractures—*e. g.*, of thigh and leg; in the former case the knee, and in the latter the ankle, could be set free by forcible movement from the stiffness (and in the case of the ankle the malposition) so often following fractures. He agreed with Mr. Wood as to the improbability of one of the rotator tendons of the hip slipping out of place, for its anatomical disposition hardly showed where it could slip to. But no more could he see how an interspinal muscle could be displaced.

Mr. HEATH indorsed Mr. Smith's remarks as to the after-treatment of fractures. No fracture should be considered cured until the movement of the joint was completely restored; and, were this thoroughly appreciated, many a case would be taken out of the hands of the bone-setters. The same thing applies especially to cases of injury about the shoulder. The pain, etc., were generally left to time, but in his opinion time never does cure them, and it was to be regretted that some of the most eminent surgeons should take the former view. Many such cases were set right by manipulation under anæsthetics. Whether there were adhesions inside or outside the joint was an open question. In some cases—*e. g.*, the knee—they were certainly within the joint. In breaking them down often decided loud "cracking" sound was produced, but this must not deter the surgeon. He had once fractured a humerus in this manipulation, but, after union had taken place, the patient was better than before. Of course, care must be exercised in the case of old people.

Mr. BARWELL thought cases of slight subluxation, such as occurred in the shoulder and ankle, should not be overlooked. He had seen cases of injury

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where there were no ordinary signs of dislocation or inflammation, yet there was inability to raise the arm; and a slight manipulation under nitrous oxide would often put them right, so that in many cases the use of the arm was immediately regained. The same held good with the ankle and tarsus, where a condition of slight downward luxation of the scaphoid produced lameness and inability to bear the weight of the body on the foot. He thought there was also a condition of subluxation of the os calcis on the astragalus. He had met with displaced tendons about the malleoli, especially the peroneus longus tendon; although the tendon could be replaced, it was almost impossible to keep it in position. He mentioned an instance where a lameness was cured by manipulation, which reduced a tendon so misplaced; but in another case no device succeeded in keeping the tendon in its groove. He asked what was meant by adhesions within a joint. He had never seen on dissection any adhesions comparable to those of other serous membranes; but hypertrophied synovial fringes might become united, and he had seen union between two cartilages on the knee. He concluded by relating how a lady who was thrown down by a cab, and seen by a bone-setter, who declared a "bone was out," and after manipulation said she was cured. But the reverse was the case, for in addition to a dislocation of the hip, she had also a fracture of the neck of the thigh, probably produced by the manipulation referred to.

Mr. G. Brown, referring to cases of anchylosis after acute rheumatism, said that owing to wasting of the muscles from impossibility of having early recourse to movement, the patient was unable to move the joint, although this may have been set free by passive motion. What procedure should be adopted in such cases, of which he had recently had an example under his care?

Mr. Morris said the debate suggested that it was not well to draw too much distinction between adhesions formed outside or inside a joint; but there were cases—*e. g.*, in shoulder and knee—where the contraction was due to changes in the capsule of the joint itself. He had dissected a contracted knee-joint, which could not be straightened until after division of the posterior ligament. So, again, in the shoulder there might be contractions and adhesions in the capsular ligament itself. If such structures be ruptured in attempt at restoring the limb the relief could only be temporary. He asked whether it was justifiable within six or seven weeks of the injury to resort to passive movement for the relief of stiffness due to fracture of the olecranon or patella. A recent case had brought this to his mind. A gentleman broke his olecranon by a fall on the ice, and a second injury delayed union. At the end of six weeks he became impatient to use the arm. Mr. Morris was averse to moving the limb too early. A further opinion was sought, which was favourable to forcible flexion under chloroform. This broke down the fracture again, and set up inflammation of the joint.

Mr. Prescott Hewett, who spoke on the invitation of the President, said that no doubt the cases in which the bone-setter succeeds were of the class alluded to by Messrs. Heath and Smith—viz., a slight injury followed by some contraction about a joint. The knee was often the seat of this, where, as in Mr. Hulke's case, an acute synovitis was followed by lameness due to adhesions, which could be readily broken down by forcible movement. He had broken down adhesions in knee and ankle with great benefit; he had been less successful with the shoulder, and least of all with the elbow. He found that Sir James Paget and Mr. W. Hood were of the same opinion as to the slight results following such treatment of the elbow—which is often the seat of adhesion—especially after fractures of one or other condyles. He had practised forcible movement under chloroform to break down the adhesions found in connection with contracted toes, due to wearing short and narrow shoes, such contractions occurring

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often after the foot had been cramped for a very short time. Some of the cases consulting bone-setters were no doubt instances of slipped tendon; he had seen this occur in the case of the biceps tendon, and in those of the peronei muscles—these being difficult to maintain in proper position. No doubt great injury is at times done by too forcible measures employed at too early a period. He was once present when manipulation employed to break down adhesion about the hip resulted in fracture of the thigh, and that in a powerful young officer. He had seen severe inflammation follow attempts to break down adhesions of the knee-joint; and in one case pyæmia followed such an attempt made on the shoulder. The worst example he knew of the injury done by bone-setters was in the case of a young gamekeeper, whose leg became inflamed and gangrenous, following the manipulations of the bone-setter. The thigh had to be amputated, and the patient died.

Dr. E. H. GREENHOW expressed the hope that the discussion would bear fruit; not that it would prevent people going to bone-setters, but that it would enable surgeons to lay down the lines of the scientific treatment of such cases, and show their country friends that such cases were understood and could be rationally dealt with. Quite lately a friend of his, the subject of hysteria only, fell into the hands of a bone-setter. Of course, it could scarcely be expected that surgeons would do all that the bone-setter proposes to do—they are more cautious than the latter, to whom the adage, "Fools rush in," etc., would well apply.

Mr. MARSH, in reply, said that in relieving the stiffness of a shoulder it was essential to fix the scapula, which otherwise accompanied the humerus in its movements. The sudden event of the pain and lameness, and the rapidity of its cure in his fourth case, made him attribute it to slipping of the obturator internus tendon over a ridge of cartilage. He agreed with Mr. Wood that the jerks should be slight, and he had seen cases where too much force had been used and the thigh fractured. To Mr. Barwell he said that he had seen actual adhesions in joints; and he agreed with Mr. Morris that contraction of the ligaments was likely enough to occur in severe cases.

Nerve-Stretching.

Mr. BARTLEET, of Birmingham, in a communication to the April number of the *Birmingham Medical Review*, points out that the minor disorders of nerve-function are rarely associated with mortal disease, or if so associated, are overlooked in the greater malady. The morbid conditions of a combined motor and sensory nerve are accompanied by varying phenomena, and, as far as we know, there are no definite physical conditions, either of a nerve or a nerve-centre, which are with any degree of certainty severally associated with the subjective or objective symptoms. Hence our treatment of them is, and must be, until we know more of the subject, in the main empirical.

The author refers to a case in which, after amputation of the thigh for injury, the patient suffered from very distressing and painful clonic spasm of the stump, and at last died absolutely worn out. After death, the part of the anterior crural nerve in contact with the brim of the pelvis was found red and apparently inflamed. Probably it is suggested, some operation directly attacking the site of the nerve-irritation would, in this case, have not only increased the patient's comfort, but would even have saved his life. The excision of the painful neuromatous swellings occasionally found in stumps is, according to the author's experience, almost invariably followed by the recurrence of such growths, and by the return of the same distressing train of symptoms. It is believed that in cases of this kind good results are much more likely to be derived from an operation on

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the affected nerve in its continuity. Of the propriety of such an operation in tetanus, Mr. Bartleet is inclined to be doubtful, as, in this disease, at all events when traumatic, the local nerve-injury which commonly is found to exist, is very rapidly associated with the condition of so-called increased polarity of the nerve-centres. The result desired by operating upon a nerve in its continuity, is the abrogation, temporary or permanent, of this as a carrier of motor or sensory impressions. This result has been attained in at least three ways: by nerve-stretching, by nerve-pinching, and lastly, by nerve-freezing. During the operation of nerve-stretching, the cellular and vascular connections of the nerve are freely severed. Any contused or thickened areolar tissue of the nerve, if such existed, would probably be altered in bulk or in shape, and the different contents of the nerve-fibres are compressed and displaced. The forcible pulling from above and below might also, it is thought, sever any small fibres of the nerve proceeding from it to neighbouring parts, especially if such fibres existed which, from disease, were either more rigid or softer than natural. In the operation of nerve-pinching, the vascular supply of the nerve and its nutrition would be but slightly interfered with, and the chief results of this proceeding would be displacement of the contents of the nerve-tubes and paralysis of its functions. Nerve freezing is performed by exposing the nerve and freezing it with ether spray. In this operation the cellular and vascular connections of the nerve are undisturbed, as also the contents of the nerve-tubes. These contents, however, are frozen, and might become permanently injured.

Mr. Bartleet's personal experience applies only to nerve-stretching, and he prefers this to the other simpler and less severe operations, for this reason; that, while we know little of the physical causes of the objective and subjective symptoms for which such operations are performed, and little also of what it is in the operation that does good, where relief has followed its use, it is well to perform an operation which, while more severe than some others proposed, is yet not dangerous to life or limb, and one which seems likely to affect the nutrition of the nerve more or less permanently.

Three cases are reported in which Mr. Bartleet performed the operation of nerve-stretching. An ill-nourished man was hurt in his work, and had to suffer amputation through the upper third of the arm. During the healing of the stump, and for many months afterwards, this patient complained of severe pains in it. The stump became very tender and tremulous. No permanent benefit was obtained from change of air, tonics, or subcutaneous injections; and about two years after the amputation the man again came under the care of Mr. Bartleet, who found on examination under an anæsthetic, that the stump was a very good one, and free from cicatricial adhesions, but presented nodules, which were thought to be neuromata. An incision was made over the brachial artery, and four or five nerve-trunks were stretched. The wound healed satisfactorily, but the patient's condition remained unaltered. It was thought that some affected nerves had escaped being stretched, but there was also a strong suspicion of malingering. Another operation was afterwards performed, and three cords of the brachial plexus were well stretched. The wound had not healed at the date of the publication of this article, but according to the statement of the patient, the pain had left the stump.

The second case was that of a lad, aged 17, who had had his forearm amputated, and complained for the two years following the operation of severe pain and extreme tenderness, which prevented his wearing anything on the stump. At the outer angle of the stump, a neuroma was detected. An incision was made near to this, and a small nerve, probably the radial, was stretched. Unfortunately,

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the nerve gave way close to the neuroma. The pain was immediately relieved, and up to the date of publication, many months afterwards, had not recurred.

A forgeman, aged 31, had been treated unsuccessfully during many weeks for a pain in the middle of the back of the left thigh, which pain had come on suddenly without any known cause. Beyond the pain, which was very severe, and quite incapacitated the man for work, there were no objective or subjective symptoms. The patient was easy when lying in bed, but any exertion or motion of the limb caused much distress. An incision having been made with antiseptic precautions, the sciatic nerve was exposed, lifted from its bed, and then thoroughly stretched, being pulled forcibly from above and from below. The wound healed in five days. The man was kept in bed for ten days, and suffered no pain. This happy result continued after he had been permitted to get up; and the man when last seen, eighteen months after the operation, was quite well, and able with a good and strong leg to resume his laborious occupation.

Mr. Bartleet considers nerve-stretching peculiarly fitted for those irregular and peculiar cases in which, being ignorant of the cause, we may the more justly employ an operation of the mode of action of which we are also ignorant. He would certainly, he states, employ this operation in cases of tetanus in which there seemed to be a strong probability of some nerve being torn or irritated by a foreign body. He would also employ it for those intractable cases of neuralgia, such as some cases of sciatica, in which no other remedial treatment has proved of any use, and in which it would, he thinks, be quite justifiable to perform an operation not dangerous in itself, not likely to make the patient worse, and which might, perchance, relieve the sufferer of the burden of a life-long affection.—*London Med. Record*, May 15, 1880.

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Nerve-Grafting.

At the recent Surgical Congress in Berlin, Herr GLUCK reported the results of some observations which he had made on the transplantation of nerves. His experiments had been performed on twelve common fowls, from the sciatic nerves of which he had removed portions three or four *centimetres* (0.12 to 0.16 inch) long, and substituted for them portions of the sciatic nerves of rabbits. At the end of eleven days, the conducting power of the nerves was found to be restored; irritation of the sciatic nerve above the transplanted portion (the nerve being carefully isolated) producing muscular contraction. The restoration of the conducting power occurred even when the position of the peripheral and central ends of the transplanted nerve were reversed, the latter being fastened by suture to the central end of the divided nerve in the fowl, and *vice versa*. In order that the result may be successful, union of the ends of the nerves by the first intention is indispensable. This, according both to the present and the former researches of Herr Gluck (described in Virchow's *Archiv*, Band 72), is a true regeneration, consisting in the development of ganglionic cells (neuroblasts) which, at the end of three days, have united the axis-cylinders of the central and peripheral portions, while the change of the rows of nerve-cells into young nerve-fibres sets in between the sixth and the eleventh day. Herr Gluck expressed the hope that his researches might prove to be of considerable practical value. He was able to show animals which, after the nerve-grafting, walked as well as others on which suture of nerves had been practised long before; while, on the other hand, fowls, from whose sciatic nerves large portions had been simply removed, still remained lame at the end of eight weeks.—*British Med. Journal*, May 1, 1880.

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Midwifery and Gynæcology.

Retroversion of the Gravid Womb with Rupture of the Urinary Bladder and Death.

The patient, aged 40, had had four pregnancies, the last three years ago. She had been suffering some weeks with dysuria and dyschezia, and had consulted several medical men. When she was brought into the gynæcological ward at Halle, Dr. SCHWARZ found her in a critical condition. The abdomen was more enlarged than it would have been at the end of pregnancy. The legs were œdematous. On vaginal examination, the external genitals were found to be distended and œdematous. The pelvis was filled with an even round, elastic tumour. The vaginal portion of the uterus could not be felt. By the rectum the tumour was also clearly made out. The bladder was evacuated and the urine was seen to be opaque, dark, and mixed with blood-corpuscles. The next day, although but little hope was entertained of saving the patient, she was put under the influence of chloroform, and an attempt made to replace the uterus. It was, however, unsuccessful. The os uteri could only be reached by forcibly pushing the finger between the tumour and the symphysis pubis. The patient died the same evening. At the necropsy, Professor Ackermann found a large quantity of darkish, opaque, serous fluid in the abdomen. The stomach and small intestines were much distended by flatus. The whole large and small intestines were covered by a fibrinous membrane. The bladder was distended above the pubes to a height of 13 centimetres, and adherent by a piece of exudation of the size of half-a-crown to the neighbouring small intestine. On separating this a rent was discovered in the bladder about 3 centimetres (1.2 inches) in length. The uterus was firmly wedged under the sacral promontory. It measured 18 centimetres (7.2 inches) in length, and 15 (6 inches) in breadth. The contained embryo was of the male sex, and measured 22 centimetres (8.75 inches). The pregnancy was at about the fourth month and a half. Dr. Schwarz discusses the mode in which the rupture might have occurred in the bladder, but it is mere conjecture. For instance, he imagines an extravasation of blood in the wall of the bladder; this extravasated blood decomposes, a small abscess is formed, and perforation or rupture of the vesical wall results.—*London Med. Record*, May 15, 1880, from *Centralblatt für Gynakologie*, March 13, 1880.

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Causes of Occasional High Temperature after Aseptic Ovariotomy.

In a paper read at a recent meeting of the Metropolitan County Branch, British Medical Association (*British Med. Journal*, May 1, 1880), Mr. KNOWSLEY THORNTON advocated the use of the term aseptic as preferable to antiseptic, the latter indicating the means used, the former the actual result of properly using them. He believed that Listerism faithfully carried out in every detail enabled the surgeon to perform operations aseptically—always provided that he had aseptic cases on which to operate. Comparing the results obtained in his own practice of ovariotomy before and after the adoption of Lister's method, he found that his increased success, since he began to use Listerism, was out of all proportion both to his previous improvement and to that of the leading ovariotomists here and in America who did not use it. An analysis of the temperature-charts of all his cases done before, and of fifty done since, the adoption of Listerism, was then given; and among the occasional causes of high temperature were shown to be reaction, nervous temperament, metrostaxis from irritation of ovarian nerves, and

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nerve-tension from too tight ligature of the pedicle. The more serious causes were congestion of the kidneys, deranged circulation from removal of a large tumour with little hemorrhage, local peritonitis, sweat rash, and failure in perfect aseptic operation.

Medical Jurisprudence and Toxicology.

Chronic Morphinism.

In the last number of *Brain*, Dr. OBERSTEINER, of Vienna, gives a description of the effects of the habitual use of morphia, as seen in Austria, which, valuable in itself, has an especial interest in connection with discussions as to the abuse of narcotics which have taken place in this country lately.

Chronic morphinism is, it seems, a vice which appertains peculiarly to the medical profession in Austria. Quite an incredible number of Dr. Obersteiner's colleagues have fallen victims to it; and he hints, not obscurely, that in his view there is poetical justice in the fact that this depraved and fatal taste should work most havoc amongst the class of men who, by carelessly prescribing the drug and instructing in the use of the hypodermic syringe, have been mainly instrumental in disseminating it.

A variety of circumstances and conditions lead up to the establishment of the morphia-craving. Most frequently, some painful ailment, such as toothache, periostitis, or sciatica, is the starting-point of the habit; but often some nervous symptom—insomnia, for example—or vomiting is its parent. The remedy first taken to allay pain, procure sleep, or tranquillize the system, is soon loved for its own sake, and becomes indispensable to common comfort. Then, again, mental troubles often determine the earliest resort to morphia. It is taken to soothe anxiety or to dull grief, which it is potent to do; for certain forms of melancholia, even of high intensity, are entirely dissipated by it; and then, when an attempt is made to discontinue it, the discovery is made that it has planted a worse grief than that which it eradicated. One curious instance of the modes of origin of the morphia-craving is narrated. It is that of a young physician who was incredulous as to the rapturous ease which a cancer patient alleged he had derived from morphia, and who took one dose himself as an experiment. That dose sealed his fate. It was like the taste of blood to the sleuth-hound, and at once awakened a ravenous appetite which he could never afterwards overcome.

The quantity of the drug taken by chronic morphinists varies within wide limits. Dr. Obersteiner has known as little as 3 *milligrammes* (= approximately the twentieth of a grain) daily suffice, without any increase, to maintain tranquillity in a lady who, whenever she was reduced to less than this little, became restless and sleepless. On the other hand, he has known as much as 3.5 *grammes* (= approximately 54 grains) taken daily and continuously for long periods. More than this quantity cannot, however, be taken by any one with impunity. The rule seems to be that, in most cases, more and more must be taken to keep up the full influence of the drug, but that a point is ultimately reached beyond which it is impossible to go. The morphinist generally finds out this point for himself, and acute poisoning by morphia is an exceedingly rare occurrence amongst those who are perpetually experiencing its chronic toxic effects.

The symptoms of morphinism are apparently pretty much in Austria what they

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are in England, and are so well known that it is unnecessary to give any detailed account of them. Most prominent among them are disinclination to exertion, loss of appetite, hyperæsthesia, frequent yawning and sneezing, a peculiar ashy grayness of complexion, impotence, and general emaciation. On the psychical side are to be noted loss of memory, suicidal tendencies, and a moral deterioration comparable to what is seen in chronic alcoholism. Falsehood, which is first had recourse to in order to conceal or palliate the evil habit indulged in, soon pervades the whole mind, and the morphinist becomes the prolific father of lies upon all subjects, even when truth would serve as well.

The morphia-hunger, which comes on when fasting from the drug is enforced, is sometimes accompanied by explosive symptoms, such as mania, dangerous impulses (often involving the fast-compelling doctor), hallucinations of the senses, copious perspirations, and collapse. These follow alike its sudden and its gradual withdrawal, and, in the latter case, generally present themselves towards the end of the weaning period, when complete abstinence has been nearly reached. Where no explosive symptoms signalize the morphia-hunger, it is expressed in restlessness, sleeplessness, diarrhœa, and great debility, while the feelings that are associated with it are as distressing as those which depend on starvation and thirst. To relieve these feelings, wine in tolerably large amounts, the bromide of potassium, and warm baths are recommended. Packing in wet sheets is also said to be of service, and the subcutaneous injection of small quantities of any liquid free from morphia seems to have a delusively calmative effect on the enfeebled mind.

The prognosis in chronic morphinism is not, according to Dr. Obersteiner, so favourable as has been sometimes maintained. It is best when the habit has been of brief duration, and originated in some transient cause, and where the patient is of a vigorous constitution of body; it is worst when the habit has been long practised, when it sprang out of some incurable condition or often recurring pain, and when the patient is of the nervous temperament. Morphinism is peculiarly a neurotic vice, and it is neurotic subjects that fall into states of alarming excitement or weakness when reformation is attempted. With them, readministration of morphia is sometimes needful after its use had been broken off, to prevent serious consequences, amongst which are complete disintegration of the mind and abject despondency, ending in suicide. In all cases of morphinism, relapses are to be apprehended, and these sometimes take place when profuse gratitude is being expressed to the physician for his assistance in effecting a cure. Where relapses have happened, it is perhaps better to be content with a diminution in the amount taken than to insist on total abstinence.

Morphinism may be of medico-legal interest. The moral imbecility which accompanies it may bring the individual abandoned to it into collision with the law, though this is less likely to occur than in alcoholism, for the morphinist is more of a recluse than the beer-toper or spirit-drinker. The habit has not yet been admitted as a ground of irresponsibility; but, not long ago, a young man in Vienna advanced it as a plea on his own behalf. He was taken in the act of picking the pockets of two ladies simultaneously in a crowd; and his excuse was that, through taking morphia, his cerebral bloodvessels were congested and his ideas perverted. He offered to take a *gramme* (= 15 grains) of morphia at one dose, in order to prove that he was a morphinist, thus shadowing forth a new branch of experimental adjudicature. But, in course of observation by the police-surgeon, it became clear that he could not simulate the phenomena of morphia-hunger, and he was not, therefore, submitted to the hazardous test which he proposed, but was dealt with as a common thief.

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A series of experiments which he performed on animals did not yield Dr. Obersteiner any very characteristic results. After injecting a number of rabbits with hydrochlorate of morphia daily, in gradually increasing doses, he observed that a habituation to it took place in rabbits as in man; and that, after its continuous use for long periods, there occurred in these animals weakness and loss of muscular tone, most marked in the hinder extremities, and also trophic affections of the skin. A sort of *alopecia areata* was set up; the hair began to fall out, particularly on the neck, so that the skin was denuded in patches. No permanent contraction of the pupils was noticed; the vessels of the ears were, shortly after the injection, contracted, but later became dilated. Except slightly increased reflex excitability, no effect of the sudden cessation of the use of morphia was observed in rabbits. During its administration, many of these animals died suddenly in convulsion, their brains being found swollen and œdematous.

An interesting paper on morphinism has also been published in No. 6 of the *Berliner Klinische Wochenschrift* for the present year, by Dr. E. LEVINSTEIN, Director of the Asylum at Schöneberg near Berlin; who, as is well known, has devoted much attention to the subject. Besides the various nervous changes and local affections (in the form of albuminuria) to which morphinists are liable, he describes a fever attending morphinism, which presents three varieties. The first, which has been described as morphia-intermittent, resembles ordinary malarial intermittent in being characterized by rigors, heat, and sweating, and generally considerable swelling of the spleen; the type is sometimes tertian, usually quotidian, sometimes irregular; and violent delirium may occur during the febrile paroxysms. In the second form, there are rigors every evening, followed by a sensation of heat with moderate rise of temperature, and thirst. The third form presents typhoid phenomena; viz., headache, buzzing in the ears, vertigo, slight fever, with a temperature of 38.3° Cent. (101° Fahr.), and paresis of accommodation; the patients are confined to bed for two or three weeks.

In the treatment, Dr. Levinstein has preferred the sudden withdrawal of the morphia. In order, however, to obviate the danger of collapse which attends this proceeding in some specially severe cases, he has adopted a modified plan, which consists in giving, twenty-four hours after the last large dose of morphia has been used, a considerably smaller quantity, varying from one-thirtieth to one-tenth of the former dose, and repeating it on the next two or three days; after which, injection has rarely been found necessary.

Dr. Levinstein has had under treatment for morphinism 82 men and 28 women. Of these, 32 were medical men, 8 medical men's wives, 7 persons connected with professional work or residing in medical practitioner's houses, 8 apothecaries, and 1 apothecary's wife. Of the 110 patients, 4 were also drunkards. Of the 82 men, 61 had relapses, and 10 out of the 28 women; of the 32 medical men, 28 returned to the habit, and so did all the apothecaries.

There were four deaths among the medical morphinists. Three died with the ordinary symptoms of morphia poisoning; and the fourth perished, after the treatment by withdrawal had been commenced, from secretly taking a large dose of morphia which he had previously borne well.—*British Med. Journal*, May 1, 1880.

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MEDICAL NEWS.

American Medical Association.—The thirty-first annual meeting of the American Medical Association was held in the city of New York on June 1st, 2d, 3d, and 4th, Dr. Lewis A. Sayre, of New York, President, in the chair.

June 1st. The convention was called to order at 11 A. M., and, after prayer, an address of cordial welcome was delivered by Dr. T. Gaillard Thomas, Chairman of the Committee of Arrangements.

The Secretary read the list of names registered up to that time, 372 in number, which on motion was confirmed.

Protests were entered against the admission of delegates from the United States Navy, and against certain delegates from Allegheny County, which were referred to the Judicial Council.

Dr. Sayre then delivered the President's Address, which had for its text the celebrated apothegm of Sydney Smith, which served for the motto of the early numbers of the *Philadelphia Journal of the Medical and Physical Sciences.* "In the four quarters of the globe, who reads an American book? or goes to an American play? or looks upon an American picture or statue? What does the world yet owe to American physicians or surgeons?" The address closed with an advocacy of the abolition of the annual volume of Transactions and the substitution of a weekly medical journal to be published by the Association.

On motion of Dr. Brodie, of Michigan, the thanks of the Association were tendered to the President for his Address, and the Chair was directed to appoint a committee of five to report upon the recommendations which it contained. The President appointed as the committee, Drs. Chaillé, of La., S. D. Gross, of Phila., J. S. Weatherley, of Ala., J. R. Bronson, of Mass., and W. R. Gillette, of New York.

Dr. S. D. Gross, of Phila., moved that the Association tender to its President, and, through him, to the family, its warmest sympathy in their sad bereavement by the death of Dr. Charles H. H. Sayre. Adopted.

Dr. E. Seguin, of New York, presented the report of the foreign delegation on the progress of medical international uniformity.

Dr. Austin Flint, Chairman of the Committee on Prize Essays, reported that the Committee did not feel warranted in awarding a prize to the single essay presented.

June 2d. Dr. A. L. Gihon, U. S. N., brought up the question of the admission of the delegation from the U. S. Navy, which provoked considerable discussion. Dr. S. D. Gross, of Phila., moved that, as the Judicial Council stated that no charges preferred against the delegation from the U. S. Navy had been authenticated, the delegation be admitted. Carried.

Dr. Benham, of Penna., of the Judicial Council, reported concerning the matter of the Allen County Medical Society, Indiana, referring the questions to the State Medical Society for adjudication.

The Committee on Nominations was then announced.

Dr. Pratt, of Mich., reported from the Committee appointed last year to consider the propositions submitted by Dr. Chaillé, of La. (see Trans. Am. Med. Assoc., 1879, p. 51), adversely to all the propositions except the fourth, which contemplated substituting a medical journal for the present volume of Transactions. On that proposition the Committee expressed the opinion that it was safer to await the law of growth than to adopt any radical change at present.

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Dr. J. S. Lynch, of Baltimore, Chairman of the Section on the Practice of Medicine, then delivered his address, which was followed by that of Dr. W. T. Briggs, of Nashville, Chairman of the Section on Surgery and Anatomy.

The Association then adopted the following amendment in reference to Prize Essays and the Committee on Prize Essays, as an addition to Section II. of the By-laws.

a. There shall be four annual prizes of two hundred and fifty dollars each, which shall be awarded at the close of the second year after announcement, as hereinafter explained, for strictly original contributions to medical and surgical progress.

b. It shall be the duty of the Chairman of each of the following four Sections: 1. Practical Medicine, Materia Medica, and Physiology; 2. Obstetrics and Diseases of Women and Children; 3. Surgery and Anatomy; 4. State Medicine and Public Hygiene, to appoint annually, before the adjournment of the meeting of the Association, three members of ability and good judgment who shall constitute a Committee of Selection, and who shall, within thirty days thereafter, select and publicly announce for competitive investigation and report, a subject belonging to one or other of the branches of medicine included in the title of the Section.

c. It shall also be the duty of the Chairman of each of the Sections mentioned to appoint annually a Committee of Award, consisting of three experts, who shall carefully examine the essays offered for competitive examination, and if any one shall be found worthy of the prize as a substantial contribution to medical knowledge, to recommend the same to the Association.

d. All essays placed by their authors for competition shall be in the hands of the Chairman of the respective Committees of Award on or before the first day of January preceding the meeting of the Association at which the reports of the committee are required to be made.

e. All Prize Essays shall be considered as the property of the Association.

f. The names of the authors of the competing essays shall be kept secret from the committees by such means as the latter may provide.

g. Membership in either of the two committees shall not debar from membership in the other; nor shall membership in the Committee of Selection exclude a member from the privilege of offering a competing essay.

June 3d. Dr. W. O. Baldwin, of Ala., Chairman of the Committee on Nominations, presented the following report: *President*, John T. Hodgen, M.D., of St. Louis. *Vice-Presidents*, Drs. W. H. Anderson, of Ala., Levi G. Hill, of New Hampshire, Henry T. Holton, of Vermont, and H. Carpenter, of Oregon. *Permanent Secretary*, Dr. W. B. Atkinson, of Penna. *Treasurer*, R. J. Dunglison, M.D., of Penna. *Librarian*, Wm. Lee, M.D., of D. C.

Chairman of Section on Practice of Medicine, Dr. Charles Denison, of Colorado. *On Surgery*, Dr. Hunter McGuire, of Virginia. *On Obstetrics*, Dr. Jas. R. Chadwick, of Mass. *On Medical Jurisprudence*, Dr. J. T. Reeve, of Wis. *On Ophthalmology*, Dr. D. S. Reynolds, of Ky.

Members of Judicial Council, Drs. J. K. Bartlett, of Wis., F. Staples, of Minn., D. R. Wallace, of Texas, J. G. Thomas, of Ga., J. S. Billings, of U.S.A., J. H. Warren, of Mass., and A. T. Woodward, of Vt.

The Committee recommended that the next meeting be held in Richmond, Va., on the first Tuesday in May, 1881. The report was unanimously adopted.

Dr. Chas. Denison, of Col., offered his resignation as Chairman of Section on Practice of Medicine, which was adopted and referred to the Committee on Nominations.

Dr. Bronson, of Mass., offered the following preamble and resolution, which were adopted.

Whereas, The published proceedings of various sections of the Association do

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not receive the practical expression desired, and do not represent the labours of its members: and whereas, the members of the Association have long felt that the present mode of introducing the Transactions to the profession has been unsatisfactory to all concerned in the advancement of medical science; therefore be it

Resolved, That a committee of five be appointed by the Chair to report at the next session regarding the practicability of formulating all the proceedings in journalistic form, as recommended by the President in his Annual Address.

Under this resolution the President appointed the following Committee: Drs. W. W. Dawson, of Ohio, J. R. Bronson, of Mass., W. H. Pancoast, of Penna., N. C. Husted, of N. Y., and J. S. Green, of N. J.

Dr. J. S. Billings, of U. S. A., reported that Congress had made provisions for the publication of the Catalogue of the Library of the Surgeon-General's Office, of which the first volume would be published in July, 1880, and the second probably in July, 1881.

The following amendments to the Constitution, proposed by Dr. J. H. Rauch, of Illinois, were adopted: Article II., second paragraph, after "Army and Navy" insert, "and the Marine-Hospital service of the United States." Fourth paragraph, at the end, insert, "The Marine-Hospital service of the United States shall be entitled to one delegate."

Dr. S. C. Busey, of D. C., offered an amendment to the By-laws, making provision for a new section to be designated Section VI., Diseases of Children. Adopted and referred to the Committee on Nominations.

The Metric Executive Committee presented a report.

The Judicial Council presented the following:—

Whereas, A protest without signature, against the registration of the delegates from the Medical Staff of the U. S. Navy, and unaccompanied by charges, had been placed in the hands of the Judicial Council, therefore be it

Resolved, That the protest against the registration of delegates from the Medical Department of the United States Navy is not sustained, and therefore there was no cause for action thereon. Adopted.

Resolved, That the Hannibal Medical Society of Missouri is not entitled to representation in the American Medical Association, because it is not in affiliation with its own State Medical Society. The protest therefore was sustained.

Dr. James F. Hibberd, of Ind., Chairman of the Section on Medical Jurisprudence, then delivered his address.

Dr. J. M. Toner, of Washington, D. C., presented the report of the Committee on Necrology.

The President announced the following appointments: Delegates to the Canada Medical Association, Drs. C. N. Bush, of New York; James R. Leaming, of New York; D. H. Goodwillie, of New York; Wm. Brodie, of Michigan; and W. B. Ulrich, of Pennsylvania. Delegates to European Medical Societies, Drs. R. B. Cole, of California; Benj. Lee, of Pennsylvania; M. A. Pallen, of New York; and L. D. Bulkley, of New York.

The report of the Librarian was then read. The library contains 3258 volumes, and $200 was voted to defray its expenses.

June 4. A communication from Dr. F. Horner, Jr., inclosing a resolution of the State Medical Society of Virginia, instructing its delegation to ask the Association to take the necessary steps for establishing a mutual aid association was received and referred.

A communication from the Philadelphia County Medical Society, concerning the abuse of medical charities, was received and referred to a special committee appointed by the chair as follows: Drs. Benj. Lee, of Pennsylvania; H. G. Piffard, of New York; S. W. Gross, of Pennsylvania; and J. W. Green.

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Dr. A. L. Carroll, of New York, offered the following:—

Whereas, The New York County Medical Society has admitted to membership graduates of schools not recognized by this Association, therefore be it

Resolved, That societies which admit irregular practitioners to membership be debarred from representation in the American Medical Association. Referred to the Judicial Council.

The Treasurer's report was then read, and shows receipts of $5025, and a balance on hand of $579.59.

The Committee on Publication presented a report.

Dr. Pratt, of Michigan, moved a resolution instructing the Committee of Arrangements to publish one programme of the work to be done in general session at the next annual meeting during the whole four days, instead of a daily programme. Adopted.

The Committee on Nominations presented the following additional report: *Assistant Secretary*, Dr. J. G. Cabell, of Virginia. *Committee of Arrangements*, Drs. F. D. Cunningham, Hunter McGuire, and Cullen, of Richmond, Va., with power to enlarge their number to seven. *Committee of Publication*, Drs. W. B. Atkinson, T. M. Drysdale, Wm. Lee, R. J. Dunglison, Alfred Fricke, S. D. Gross, and Caspar Wister. *Chairman of Section on Practice of Medicine*, Dr. William Pepper, of Pennsylvania. *Chairman of Section on Diseases of Children*, Dr. A. Jacobi, of New York.

Dr. H. G. Piffard, of New York, moved that the Richmond County (N. Y.) Medical Society, which has members who have been irregular practitioners of medicine, be debarred from representation in the American Medical Association. Referred to the Judicial Council.

Dr. Brodie, of Michigan, then offered the usual resolutions of thanks.

On motion of Dr. Marcy, of Massachusetts, a donation of $1000 out of the funds of the Association was granted to Dr. Wm. B. Atkinson, the Permanent Secretary.

Dr. J. F. Hibberd, of Indiana, Chairman of the Section on Medical Jurisprudence and State Medicine, offered resolutions endorsing the National Board of Health; recommending Medical schools to establish a Chair of State Medicine as part of the regular curriculum; and that the name of the Section shall be hereafter "Section on State Medicine." Adopted.

Dr. John S. Hodgen, of St. Louis, President-elect, was then introduced to the Association.

A vote of thanks to Dr. Sayre for the ability and courtesy with which he had presided over the meetings was passed, and, after a suitable response by Dr. Sayre, the Association adjourned, to meet at Richmond, Va., on the first Tuesday in May, 1881.

—

American Laryngological Society.—The second annual meeting of this Society was held in New York, May 31st and June 1st and 2d. In the absence from the country of the President, Dr. Elsberg, Dr. J. Solis Cohen, of Philadelphia, was called to the chair. A number of interesting papers were read and intelligently discussed. The following officers were elected for the ensuing year: President, Dr. J. Solis Cohen, of Phila.; Vice-Presidents, Dr. W. C. Glasgow, of St. Louis, and J. D. Roe, of Rochester; Secretary and Treasurer, Dr. G. M. Lefferts, of New York. The next meeting will be held in Philadelphia in 1881.

—

Association of American Medical Editors met in New York May 31st, Vice-President Dr. Frank Woodbury, of Phila., Assistant Editor of *Boston Medical*

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and Surgical Journal, presiding, in the absence of Dr. Powell, of Atlanta. The following officers were elected for the ensuing year: President, Dr. Geo. F. Shrady, of *Medical Record;* Vice-President, Dr. R. S. Nelson, of the *St. Louis Courier of Medicine;* Secretary, Dr. D. S. Reynolds, of the Louisville *Medical Herald.*

—

Connecticut Medical Society met in eighty-ninth annual convention, at New Haven, May 26th and 27th, Dr. A. R. Goodrich, President, in the chair. The following office-bearers were elected for the ensuing year: President, G. L. Platt, of Waterbury; Vice-President, M. Deming, of Litchfield; Secretary, C. W. Chamberlain, of Hartford.

—

Georgia Medical Association held its annual meeting at Augusta on the 21st of April, Prof. Joseph Eve, President, in the chair. The following officers were elected for the ensuing year: President, J. C. Le Hardy, M.D., of Savannah; Vice-Presidents, Drs. E. W. Alfriend, of Albany, and W. B. Wells, of Red Clay; Secretary, Dr. James B. Baird, of Atlanta.

—

Massachusetts Medical Society.—The ninety-ninth annual meeting of this Society was held at Boston June 9th, President, Dr. George H. Lyman, of Boston, in the chair. The following officers were elected for the ensuing centennial year: President, Dr. Henry W. Williams, of Boston; Vice-President, Dr. Asa Millett, of Bridgewater; Orator, Dr. J. Collins Warren, of Boston; Anniversary Chairman, Dr. James C. White, of Boston. The ensuing centennial meeting will be held in Boston on the second Wednesday in June, 1881.

—

Michigan State Medical Society.—The fifteenth annual meeting of this Society was held at Grand Rapids May 12th, Dr. George K. Johnson, of Grand Rapids, President, in the chair. A number of interesting papers were read, and the Society evinced its interest in the efforts to advance the standard of medical education by the adoption of the following preamble and resolution:—

Whereas, The State Medical Society of Michigan views with gratification the evidences that its labours for a more elevated standard of medical education have not been without reward, in the fact that all the medical schools of the State have made a preliminary examination and a three-term graded course a requisite for graduation; therefore

Resolved, That we, the members of the State Medical Society, pledge ourselves, individually and collectively, to support only such schools as require for admission a thorough preliminary examination, and for graduation at least a three-term graded course of lectures in three years of study; and that we will use our influence to prevent students from attending any college with an inferiority of preparation and graduation.

The following officers were elected for the ensuing year: President, J. R. Thomas, M.D., of Bay City; Vice-Presidents, Drs. E. P. Christian, of Wyandotte; J. W. Hagadorn, of Milford; C. J. Lundy, of Detroit; J. H. Bennett, of Coldwater; Secretary, G. E. Ranney, of Lansing. The next meeting will be held at Bay City on the second Wednesday in June, 1881.

—

Medical Society of North Carolina.—The twenty-seventh annual meeting of this Society was held at Wilmington, May 11th, 12th, and 13th, Dr. J. F. Shaffner, of Salem, President, in the chair. The following office-bearers were elected for the ensuing year: President, Dr. Richard B. Haywood, of Raleigh; Vice-Presidents, Drs. J. A. McRae, of Fayettesville; W. H. Lilly, of Concord; R. H. Speight, of Tarborough; and W. J. H. Bellamy, of Wilmington; Secretary, Dr. D. L. Julian Picöt, of Littleton.

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The Pennsylvania State Medical Society held its thirty-first annual meeting at Altoona, May 19th, 20th, and 21st, Dr. Andrew Nebinger, of Phila., President, in the chair. Dr. J. L. Carpenter, of Pottsville, delivered the address in Obstetrics; Dr. J. H. Packard, of Phila., the address in Surgery; Dr. I. N. Kerlin, of Del. Co., the address in Mental Disorders; and Dr. Benj. Lee, of Phila., the address in Hygiene. The following officers were elected for the ensuing year: President, Dr. J. L. Carpenter, of Schuylkill County; Vice-Presidents, Drs. Thomas Lyon, of Lycoming; William Varian, of Crawford; C. A. Rahter, of Dauphin; and M. R. Cowden, of Butler; Recording Secretary, Alexander Craig, of Lancaster. The next meeting will be held at Lancaster on the second Wednesday of May, 1881.

—

American Ophthalmological Society will hold its annual meeting at Newport on the 22d of July.

—

International Otological Congress.—The second International Otological Congress will be held at Milan, Italy, from Sept. 6th to 9th, of this year. Prof. Voltolini, of Breslau, is President of the Committee of Arrangements.

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British Medical Association.—The forty-eighth annual meeting of the British Medical Association will be held at Cambridge, August 13, 1880, under the presidency of Dr. G. M. Humphry, Professor of Anatomy in the University of Cambridge. The address in Medicine will be delivered by Dr. J. B. Bradbury; the address in Surgery by Mr. Timothy Holmes; and the address in Physiology by Dr. Michael Foster.

—

New York State Board of Health.—This Board has just been organized, under a law passed by the last Legislature, by the election of Dr. E. M. Moore, of Rochester, President, and Dr. Elisha Harris, of New York, Secretary.

—

Death under Bromide of Ethyl.—A case of this occurred on the 26th of May in the clinic of Dr. Levis at the Jefferson College Hospital in this city. The patient was eighteen years of age, and had a vesical calculus; he was greatly prostrated; and suddenly died after inhaling about a drachm of the anæsthetic, and after the first incision in the operation of lithotomy had been made. Artificial respiration was unavailing. Upon post-mortem examination the brain, heart, lungs, and kidneys were reported to have been greatly diseased.

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Literary Notes.

D. Appleton & Co. announce "a Practical Treatise on Tumours of the Mammary Gland," by Dr. S. W. Gross, and have in preparation a work on the "Science and Art of Midwifery," by Dr. Wm. T. Lusk, of New York; a "Treatise on Insanity," by Dr. Wm. A. Hammond, and a translation of Fournier's "Syphilis and Marriage."

Smith, Elder, & Co., of London, have just published a small volume on "Antiseptic Surgery," by Mr. MacCormac, of St. Thomas's Hospital.

J. & A. Churchill have also published Morell Mackenzie's "Manual of Diseases of the Throat and Nose. Vol. I., Diseases of Pharynx, Larynx, and Trachea," and have in press a volume "On Chronic Atrophy of the Stomach, and on Nervous Disorders of the Digestive Organs," by Dr. Samuel Fenwick, Assist. Phys. to the London Hospital. They also announce that Dr. Thomas Buzzard is preparing for publication some "Clinical Lectures on Diseases of the Spinal Cord."

Dr. Thomas Radford, of Manchester, is engaged on a second edition of his "Record of Cæsarean Sections in Great Britain."

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THE

MEDICAL NEWS AND ABSTRACT.

VOL. XXXVIII. No. 8. AUGUST, 1880. WHOLE No. 452.

(For List of Contents see pp. 511-12.)

CLINICS.

Clinical Lectures.

ON A CASE OF ENLARGED SPLEEN, WITH REMARKS ON THE MALARIAL CACHEXIA.

A CLINICAL LECTURE DELIVERED AT THE PENNSYLVANIA HOSPITAL.

BY JAMES H. HUTCHINSON, M.D.,
ONE OF THE ATTENDING PHYSICIANS TO THE HOSPITAL.

GENTLEMEN: It could only be a rare accident which would give me the opportunity of showing you, at this season of the year, any of the severe or acute forms of malarial disease. These are, it is true, occasionally met at other times than the latter part of the summer and the autumn, in sailors and others who, having been exposed to the causes of the disease in southern countries, have sickened on the voyage home and been brought upon their arrival at this port to our hospital for treatment. But such cases must be infrequent, since I have not had one under my care for several years. Indeed I am inclined to the opinion that, even in autumn, they are seldomer seen now than formerly, and that when they do occur they are of milder type. May it not be that as our country is becoming more thickly settled and consequently more thoroughly drained and cultivated that malaria, whatever may be its source, is growing less virulent and its effects less severe? In the time of Sydenham marsh fevers are known to have been very prevalent throughout England. Among its victims were James I. and Cromwell, who died of attacks of these diseases, contracted it is said in London itself. At the present time, on the contrary, there are but few places in England where they occur in any but the mildest form. It does not seem, therefore, too much to hope that a similar change is gradually taking place in our own land, and that these diseases will in time disappear from at least the Middle and Eastern States.

At present, however, a large proportion of the sickness which is met with in this city and the surrounding country is directly or indirectly attributable to malaria, and I have therefore determined to take as the subject of this morning's lecture, the results of chronic mal· rial poisoning,

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known under the name of "The Malarial Cachexia." The case I shall presently bring before you illustrates in a high degree a particular form of this cachexia, but I shall give my remarks a wider scope and shall refer as fully as time will permit to some of the other ways in which it may manifest itself.

In the first place then I never pass through my term of service without having several cases of what are known as "vernal attacks of intermittent fever" to treat. These almost invariably occur in persons who have passed through an autumnal attack of greater or less severity, when owing to some exposure to cold, or to some other exciting cause which cannot always be distinctly made out, they are unexpectedly seized during the latter part of winter or in the early part of spring with a recurrence of the disease. In a few cases, as in a case at present under treatment in the wards, the vernal attack would seem to be the original one. But in most of these it is at least probable that the autumnal attack has been irregular or of such slight severity as not to have arrested attention. Occasionally, however, in consequence of the patient's powers of resistance, the disease does not show itself until long after exposure to its cause, and then only as a result of something having occurred to lessen this resisting power. Hence, attacks of intermittent fever are not uncommon in soldiers who have successfully withstood the causes of this disease until they have been wounded, when they have at once succumbed to them. As a general rule the patient rapidly recovers under appropriate treatment. Still cases are occasionally encountered which show a high degree of obstinacy to treatment. This tendency to relapse is an interesting feature of the disease; it is, however, universally recognized, and it is not my intention this morning either to dwell upon it or to attempt to explain it.

My purpose is to speak more particularly of that form of malarial cachexia which occurs in cases in which there have been at no time paroxysmal attacks, or in which these, after continuing for some time, have at length yielded to treatment. It is a matter frequently of the greatest importance to recognize this condition, as it demands a special treatment.

I will now bring before you the patient to whom I have already referred. The following history of his case has been drawn up from notes taken at the bedside by my clinical clerk, Dr. Joseph M. Fox.

J. P., æt. 44; married; a native of Sicily; laborer; was admitted into the men's medical ward of the Pennsylvania Hospital February 2, 1880. The patient states that his parents were healthy, that so far as he knows he is not hereditarily predisposed to any disease; and that he has never had syphilis. He appears to have enjoyed uninterruptedly good health until sixteen years ago, when he contracted intermittent fever. He has since suffered from frequent recurrences of this disease, having had in all as many as twenty-four attacks. The attack previous to the present one occurred above nine months ago. He has been in this country only fifteen days. On the last three or four days of the voyage here, he says he felt poorly, but had no chill until ten days after landing, when one accompanied by vomiting and a good deal of gastric distress occurred. He asserts positively that he did not notice that his abdomen was enlarged until three days before coming to the hospital, and that his attention was then called to it only by the presence of a good deal of pain. He says, however, that it was enlarged, but not so much as it is now, about twelve years ago, but that this enlargement subsequently disappeared.

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Upon admission, the patient is pale and emaciated. His skin and conjunctiva are both yellowish. His tongue is pale and slightly coated, his appetite poor, and his bowels are inclined to constipation. At the angle of the jaw upon both sides there is a distinct swelling which apparently involves the parotid gland; the swelling is free from redness, and can be freely handled without giving him pain. Upon examining his chest a few sibilant râles and a well-marked hæmic murmur are heard.

The abdomen is very much enlarged, especially upon its left side, which is very prominent. It measures thirty-seven inches in circumference. Upon examination by percussion the liver dulness appears to be somewhat diminished in area. This is probably due to the tympanitic condition of the bowels, which renders the examination of the liver difficult. The spleen can be readily felt through the abdominal walls, and extends a little beyond the median line just above the umbilicus and down behind the crest of the ilium below. In the anterior axillary line of the left side, dulness begins at the fifth interspace; on the back it extends almost to the vertebral column.

The following are the results of an examination of the urine: Colour dark. Reaction, and specific gravity, 1016. Contains no albumen, and no sugar. No casts seen under the microscope.

The blood was examined by the pathologist of the hospital, Dr. Morris Longstreth, and this is his report: "A microscopic examination of the blood showed the following. The red corpuscles are irregular in shape and size, and form themselves poorly into rouleaux. Most of them show a tendency to alter in shape—to become double convex. The white corpuscles also vary in size and are slightly increased in number; a few more of them being seen in a field than in health, but the blood is not leucocythæmic. There is no evidence of pigmentation.

This case presents, as I have said, many of the most prominent characteristics of the malarial cachexia. In many cases, indeed in the majority, we do not have jaundice, but only a dirty-yellow or ashy-gray discoloration of the skin. The attack of intermittent fever from which the patient has recently suffered is probably the cause of this by giving rise to congestion of the liver. In many cases also in which the patients are not ill enough to take to their beds, depression of spirits and indisposition to exertion, whether mental or physical, are marked peculiarities. In cases of greater severity, œdema of the lower extremities, and even accumulation of liquid in the serous cavities, may be present. In others, dyspeptic symptoms may be the prominent ones, the patient complaining of furred tongue, disagreeable taste in the mouth, a sense of weight in the epigastrium, and of constipation or diarrhœa. Sometimes he suffers from epistaxis or other hemorrhages, which occur as the result of impaired nutrition of the walls of the bloodvessels.

The examination of the blood has failed to disclose in this case the existence of pigment granules and masses, upon which so much stress has been laid by recent writers, and, among others, by my colleague, Dr. J. Forsyth Meigs. These are found in most cases, in which the malarial cachexia is at all decided, in the blood, the spleen, the liver, the kidneys, the brain, the spinal cord, in fact, in almost every organ and tissue of the body. It is probably well known to most of you that Dr. Meigs connects with the presence of these granules in the blood, the tendency to the recurrence

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of attacks of intermittent fever which is so common a feature of the disease. He says, in his article on the subject in the first volume of the Pennsylvania Hospital Reports, "The masses might be supposed to retain in a dormant state the original poison, from the union of which with the blood corpuscles they had resulted. Then if the circumstances, such as over-exertion or hot weather, which are prone to bring on a renewal of the disorder, are those also which facilitate the resorption of the matter in the blood, the miasmatic influences would be again at liberty to act." This is, however, only an hypothesis which is far from proven, so that this tendency to relapse remains an enigma which no one has as yet been able to solve. Still a great many of the symptoms of the malarial cachexia are fairly attributable to the accumulation of pigment in the blood and tissues. It is sufficient for our present purpose to say that we can thus explain the discoloration of the skin, the interference with the functions of the liver, and the occasional occurrence of brain symptoms and of albuminuria.

In most of the cases in which the blood has been carefully examined, there has been found, in addition to the changes noted by Dr. Longstreth, a decrease in the amount of albumen and fibrin. Hertz has been able to demonstrate, in some cases a diminution in the size of the white corpuscles, which were no larger than the red. Occasionally, also, the red corpuscles are nucleated.

It has been generally thought that the spleen is the principal seat of the formation of this pigment matter, and that it is thence distributed throughout the body. It is not difficult to conceive that during the paroxysms of intermittent fever, when the organ is enlarged and distended with blood, a destruction of the corpuscles, and a subsequent transformation of the hæmatine into pigment may readily take place, especially when a high temperature coexists. But there is also reason for believing that this change may take place in the liver, and even in the blood itself, as pigment masses of such a size as to preclude the possibility of their having passed through the capillaries of the liver and lungs are frequently found in the vessels of the brain. That the spleen also may be the seat of extensive disease without causing pigmentation of the blood is shown by the case before us. There are, moreover, several diseases accompanied by enlargement of the spleen and by a high temperature, in which pigment granules are not formed in the blood.

The patient illustrates one of the most common results of chronic malarial poisoning, although it is not often met with in as high a degree of development. I allude, of course, to the enlargement of the spleen. This is so common a result of long-continued intermittent fever, that it is popularly known under the name of ague-cake. This condition is generally attributed to the frequent congestions of the organ which occur during the paroxysms, and which at length bring about a change in its structure. In a certain number of cases this explanation fails, as ague-cakes have been found in cases of chronic malarial poisoning in which no chills have occurred. Indeed, Piorry and Meckel look upon the spleen as the primary seat of the disease, and regard the paroxysm of intermittent fever as simply the consequence of the engorgement of the organ. We are here, however, again met by the difficulty that intermittent fever has occurred without the slightest swelling of the spleen. Indeed, in a case reported in Canstatt's *Jahresbericht* for 1860, and referred to by Hertz in Ziemssen's

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Cyclopædia, the spleen would seem to be unnecessary for the development of this disease.[1]

The spleen in the case before you is enormously increased in size. In some of the published cases, the organ is said to have been fifteen or sixteen times as large as in health, and to have weighed from 30 to 32 pounds, as in the cases reported respectively by Portal and Lieutaud. It is found after death to have become denser, tougher, and darker in colour, than in health, and to show upon section in old cases a great increase of the trabecular tissue at the expense of the pulp, which in some cases has almost entirely disappeared. Occasionally there are evidences of amyloid degeneration, and this change many coexist with a similar one in the liver and spleen. Not infrequently it is found connected to adjacent parts or organs by adhesions, the consequence of previous attacks of peritonitis. Greater proportionate enlargement is said to occur in children than in adults, because the fibrous capsules of the organ in the former is more elastic, and hence permits of a greater distension. No age is exempt from the liability to ague-cake. Cases are on record in which it has been found in children at birth in malarious regions.

The ague-cake is hardly likely to be mistaken for any other tumour, especially in a case in which we have such an unmistakable history of chronic malarial poisoning as in the one before us. An enlarged left kidney is said to have been taken for it, but we have in this case nothing in the history or symptoms to justify a suspicion that the kidney is the seat of the disease. I remember in the earlier part of my professional life having regarded an ague-cake as a solid ovarian tumour, until I had thoroughly examined the case, when its nature became clear enough. Besides the physical characters of an enlarged spleen, which are sufficiently distinct in this case, the examination of the blood points towards the spleen as the organ affected, as it is not usual to find the changes in the blood which I have described, present in other forms of disease.

The patient tells us that he noticed that his abdomen was swollen only a few days before coming here. Are we then to conclude that the enlargement of the spleen has existed for only a few days? I unhesitatingly answer, decidedly not. The very size and apparent density of the organ render this unlikely. It is not uncommon for persons in his class of life to overlook conditions which do not give them pain or make the earning of their daily bread impossible. It is more probable, I think, that the "swelling" which, he says, he noticed twelve years ago, has existed in a greater or less degree ever since.

The prognosis in the case, marked as it is, is not hopeless. Already under the treatment I have instituted, some improvement has taken place, and I confidently look forward to more before discharging the patient. In saying this I do not mean to intimate that it is possible to restore the spleen entirely to its former healthy condition. A certain amount of damage has been inflicted upon it, which is, of course, irreparable.

The examination of the liver has given in this case only negative results. Still it is very unlikely that this organ is in a perfectly normal state. Indeed, the jaundice, under which the patient is now suffering, would seem to indicate the existence of some chronic changes in it. In a report

[1] A man received an extensive wound of the abdomen in the left side through which the spleen escaped, and, as it could not be returned, it was removed. The patient recovered from the operation and subsequently had malarial fever. Eventually a post-mortem examination showed nothing but the shrivelled rudiments of the spleen left.

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of several cases of remittent fever, observed in this hospital by Dr. Thomas Stewardson about the year 1838, certain marked alterations in the colour and consistence of the liver were for the first time described. Great importance was attached to these changes by Dr. Stewardson, inasmuch as he believed that their natural tendency, when long continued, is to pass into cirrhosis, and thus lay the foundation of some of those chronic disorders to which the disease frequently gives rise. Other authors have also called attention to the occurrence of cirrhosis and amyloid degeneration of the liver as results of remittent fever. Cirrhosis may be rare as a consequence of chronic malarial poison, but there can be no doubt of the prevalence of diseases of the liver in the unhealthy portions of our country.

The kidneys are frequently implicated in the graver forms of malarial disease, and there is good reason to believe that the changes which occur during acute attacks are sometimes permanent. In other words, Bright's disease may, in some cases, at least, be the result of remittent fever. Out of fifty grave cases of this disease which Frerichs had the opportunity of observing at Breslau, albuminuria was present in twenty-one; and in some of the fatal cases the kidneys are said to have been extensively disorganized. Similar changes are described by Key. In looking over my notes of cases of Bright's disease I have been struck with the frequency of the occurrence of intermittent fever as an antecedent disease to that of the kidneys. In one case this connection was so remarkable that I shall give you a brief abstract of its history.

E. J., æt. 21, unmarried, American, was admitted into the medical ward of the Pennsylvania Hospital, Feb. 5, 1872. The patient's family history was good. He stated that his health was good until the autumn of 1872, when he had a severe attack of what he calls "swamp fever," which he contracted while working in the low lands near the Mississippi River. The attack lasted for six weeks, and was accompanied by serious diarrhœa. Since then, attacks of ague have repeatedly occurred. In January, 1871, or about two months after apparently convalescing from his remittent fever, his legs became dropsical. With the exception of diminished quantity, he noticed nothing abnormal in connection with the renal secretion, and this he ascribed to the loss of a large quantity of water by the bowels. In the following March, the dropsy disappeared, but reappeared at about the end of September, when he was admitted into the hospital, but was allowed by his friends to remain at this time for a few days only. During his stay in the hospital his urine was, however, examined and found to be highly albuminous. After his second admission his urine was again examined with the following results: Quantity passed in twenty-fours, f℥xxxij; colour, pale yellow; specific gravity, 1016. It contained albumen one-half by bulk. Upon standing it lets fall a whitish deposit, which, under the microscope, was found to contain numerous pale, granular, and fatty casts with a few that were hyaline. The patient eventually died of peritonitis. At the autopsy, the kidneys were found to be examples of the condition known as the "large white kidney."

May not then malarial fever be occasionally the cause of Bright's disease, just as various other acute febrile diseases are now known to be? There are certainly some cases which it is difficult to explain in any other way.

Sometimes the effects of chronic malarial poisoning are shown in some derangement of the nervous system. All of you are probably aware how

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frequent, especially in women, are attacks of supra-orbital neuralgia in those who have been exposed to malarial emanations. They are usually known as "brow agues," and often occur in persons who have never had a regular attack of intermittent fever, and hence their nature is not rarely unrecognized. They may, however, be readily distinguished from other forms of neuralgia by their paroxysmal character, and by their generally yielding to antiperiodic doses of quinia. Occasionally more threatening nervous symptoms occur in the subjects of the malarial cachexia. I have a patient now under treatment in private practice, who has an epileptiform convulsion regularly with every paroxysm of intermittent fever, although he was not previously to contracting the latter disease the subject of epilepsy. An attack of intermittent fever has, in some cases, appeared to exercise a curative influence upon epilepsy; but in the case just referred to I fear it may induce such changes in the brain that my patient may become a confirmed epileptic, especially as I find it difficult to induce him to take sufficiently large doses of quinia to exercise a controlling influence over his disease. In other cases delirium or coma suddenly supervenes in the course of the malarial cachexia. These various symptoms are ascribed by many writers to the presence in the brain of the pigment masses and granules which I have fully described in the earlier part of my lecture. These have been discovered in the brain long after recovery from the acute disease to which they owe their origin, as in a case in which Dr. Meigs found the brain discoloured by them eighteen months after an attack of remittent fever. It does not seem unreasonable to suppose that they are capable, under certain circumstances, of acting as irritants to the brain. Still it is only right to add that coma, delirium, and convulsions, have all occurred in cases in which the brain has appeared at the autopsy to be healthy, and have been absent in others, in which it has been found loaded with pigment.

The heart usually shares in the general impairment of nutrition present in the malarial cachexia; its muscular tissues being found in those cases which terminate fatally, pale and soft. The murmur, which is heard in this case is, however, of hæmic origin, and is not due, I feel sure, to organic disease.

I have left myself but little time to speak of the treatment of the malarial cachexia. No matter what form it may assume it demands the same general treatment, and this consists in the administration of full doses of quinia, generally given in combination with iron. In this case it is proper of course, in addition to giving these remedies to attempt, if possible, to reduce the volume of the spleen. Up to the present time I have contented myself with painting the tincture of iodine over the tumour. Electricity has been recommended for the reduction of these tumours, but thus far all the trials which have been made with it have resulted in failure. Ointments made up with various preparations of mercury have been used, and it is asserted, with success. If the patient were less broken down, less cachectic in appearance, I should be disposed to inject subcutaneously a solution of extract of ergot in glycerine, as has been done successfully, in similar cases, by my colleague, Dr. Da Costa, but I fear the production of abscesses. Mosler has recently recommended the injection of tincture of iodine into the substance of the organ itself. But I hesitate to have recourse to a procedure not without danger to the patient, until simpler means of treatment have been tried and failed. In obstinate cases in which little or no improvement has taken place after quinia has been

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given a fair trial, good results will often be obtained with arsenic, which may be administered alone, or in combination with the bitter wine of iron. The derangements of the stomach and bowels, when present, must be met by the appropriate remedies. I have seen good results follow the occasional use of mercurials.

NOTE.—At a subsequent lecture the patient was again exhibited to the class, for the purpose of showing the improvement that had taken place in his condition. The spleen was apparently reduced to about one-half of its previous size. The treatment I directed in the lecture has been carried out, and when he seemed in a sufficiently robust condition to bear them, the subcutaneous injections of ergot were administered to him, but had to be almost immediately abandoned on account of the production of abscesses. Ergot was subsequently given to him by the mouth, and it was thought with advantage.

A short time afterwards, although the spleen continued enlarged, the patient, feeling perfectly well, demanded his discharge.

ON VAGINITIS.

BY J. MATTHEWS DUNCAN, M.D., LL.D.,
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GENTLEMEN: My lecture to-day is upon Vaginitis, a disease which is so copiously illustrated by cases in "Martha" that, although it cannot be expected to strike you, it strikes me very forcibly that it is greatly neglected in medical practice and in medical literature. This arises from two circumstances: it is often chronic and slight and it often forms a part of a more extensive disease, of which other parts are much more urgent and attract the whole attention of the observer to themselves. If a woman, for instance, has chronic vaginitis and ovaritis, the case will probably be called ovaritis, and there will be a risk of the vaginitis being neglected. If a woman has acute vaginitis and cystitis—which latter is one of the most painful and urgent of diseases,—it is likely that the vaginitis will be neglected. The frequency of this disease gives it great importance.

Before I consider the parts of the subject which are to form the chief topic of my lecture to-day, I must get a few statements out of the way. Diphtheritic vaginitis is a rare disease: I have seen it. Erysipelatous vaginitis is a rare disease; and there is a peculiar form of it which is rarer—a diffuse inflammation of the external cellular coat, causing swelling which almost occludes the whole length of the passage; and when this ends in suppuration, it sometimes so dissects out the tube of the vagina as to deserve the name of para-vaginitis dissecans. Lately I have seen a case of vaginitis with similar inflammation of the cervix uteri, where the disease consists of rounded sloughing phagedænic ulcerations, of one or two lines broad, for whose origin no satisfactory syphilitic account could be given; the ulcers were on the lacquear vaginæ and on the cervix. Then an ulcerous vaginitis ending in adhesions is described; and I have seen a pustular vaginitis.

Besides these different kinds there are varieties of vaginitis as where the disease attacks only parts of the passage, as the lacquear, in which case it is very frequently associated with inflammation of the cervix uteri. It also frequently

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attacks the lower part alone of the vagina, and in that case it is often associated with inflammation of the pudendum. Besides, the inflammation may be of small parts, so that, when the vagina is looked at, it has a mapped, or a marbled, or a mottled appearance. I have seen also a vagina spotted like a Dalmatian dog, as if the chronic inflammation were only around the openings of numerous little mucous follicles, regularly arranged. Again, as in a case which I showed you in "Martha" last Tuesday, the inflammation may so affect the ridges of the rugæ of the vagina that they alone appear red, the sulci being pale.

Now for a great matter. Vaginitis may be a local or a constitutional disease. The characteristic acute vaginitis, gonorrhœa venerealis, or the same disease occurring after marriage, or the same disease occurring after the introduction or during the wearing of a pessary, are examples of local—purely local—disease. If the disease is severe it draws the constitution into sympathy with it, and you have a constitutional affection secondary to the local.

But a large number—indeed, I think the majority of cases—are constitutional in their origin: they exhibit an order the reverse of that which I have mentioned as characteristic of local diseases; it is the constitutional that brings on the local affection secondary to the constitutional.

In this hospital it seems natural to speak at length on the constitutional origin and treatment of local disease, of which Abernethy made so much. The subject, as he discussed it, was very imperfectly known; and indeed now our knowledge is very deficient. A great deal of the details of what has been said, and some of what I have to say, is mere arbitrary statement; but the great principles are so important that I must enter upon them at some length.

There is an inflammatory diathesis which accounts for the occurrence of local diseases, and this is occasionally well exemplified in lying-in women. Such, while well and tenderly cared for and scrupulously nursed, and after the time of septicæmia and pyæmia are far past, may have a violent attack of pleuritis or pleuro-pneumonia, for which no explanation can be discovered, and which begins and ends as a simple inflammatory disease, but not a mere local disease: it springs from a constitutional origin, and this origin we call the inflammatory diathesis for want of a more definitely intelligent name. Extraordinary examples of this I have seen; several cases, indeed, such as this: After a week of health recovery, then come puerperal insanity, double pleuro-pneumonia, double nephritis with albuminous urine, and double or right and left parametritis; all beginning and ending as purely inflammatory affections, without any discoverable reference to cold or septicæmia. In the case of simple local vaginitis, as in the analogous gonorrhœa in the male, the occasional occurrence of arthritis is alleged as evidence of a constitutional affection. This arthritis I feel bound to believe in, but I have never seen it; and for that reason I shall say nothing about it.

When vaginitis occurs as the result of constitutional disease it seldom occurs alone, although it may do so. It is generally accompanied by cystitis, and sometimes by still more extensive disease. It is generally subacute, as is the cystitis which often accompanies it. Vaginitis and cystitis, each alone, or the two combined, are not rare in old women as constitutional diseases. If they occur in conjunction, the cystitis being much more painful than the allied vaginitis may alone attract the observer's attention. Besides being subacute a constitutional vaginitis is likely to be chronic: it will probably continue so long as the constitutional condition which gives rise to it persists.

What are the constitutional conditions which give rise to vaginitis? Alcoholism is the most important; the next is old age; the next is lupus, or rather the constitution accompanying lupus; and the next is diabetes, and in this case the vaginitis is generally accompanied by vulvitis.

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The importance of this distinction of vaginitis into local and constitutional is seen in treatment. A local vaginitis is to be managed almost entirely by local treatment. A constitutional vaginitis will be very imperfectly and unsuccessfully treated if you pay attention only to the local treatment; whereas if you pay attention to constitutional treatment, and even omit local treatment, you will succeed. In cases of this kind striking successes in practice are often seen. You are called to a case of a drunken woman who has, as is not very rare, inflammation of the kidney, bladder, urethra, and vagina of a subacute kind, and are told by the practitioner that he has tried every medicine he can think of. His therapeutical method, in its highly diluted copiousness, reminds one of the garrulity of little knowledge. In such a case, I say, if you recognize the constitutional origin of the disease, then the line of treatment is at once indicated, and you achieve brilliant success. You make the drunkard a teetotaler, and the vaginitis disappears. An illustration, foreign to the genital organs, may be of use: There is a form of conjunctivitis which is produced by chloralism. Now, if an oculist were treating this in ignorance of its cause, what a failure he would make! He would feel that a disease usually easily cured was beating him, and he might be tempted to try something else, and again something else; whereas, if he knew the cause, he could cure it at once. *Sublata causa tollitur effectus.*

Besides that this disease may be local or constitutional, there is another very important thing to remember about it—namely, that it is frequently part of a more extensive malady.

This is true of local vaginitis, and the more extensive malady is the affection of neighbouring organs. In cases of acute vaginitis the spreading is by continuity. A woman has venereal gonorrhœa. It is not improbable that she will have endometritis, ovaritis, perimetritis, urethritis, cystitis, and ureteritis, and perhaps nephritis. The whole disease here is local; it was begun by the poisoning of the vaginal mucous membrane. The treatment of the local disease is essential in the case, but the other diseases must be attended to, and they may persist after the cure of the original local affection.

When the disease is constitutional, the vaginitis is, as I have already said, generally only a part of a more extensive malady. I saw a case, for instance, not very long ago, during pregnancy, and another case in an old woman above sixty, where the constitutional disease was alcoholism. Both had purulent leucorrhœa; both had urethritis, which in the old woman was so severe that you could bring out pus from the orifice of the urethra. Both had irritable bladder and albuminous urine, this secretion being in the old woman sometimes tinged by blood. In both the vaginitis was an important part of the disease compared with the affection of the urinary organs; and this latter justly attracts almost the whole attention of the practitioner. In such cases the urine is of low specific gravity; opalescent, and remaining opalescent after standing; it deposits mucus with phosphates and lithates. The microscope detects pus, bladder epithelium, and epithelium of the ureters. Albumen is thrown down after boiling.

This inflammatory affection of the whole genito-urinary organs by alcoholism, and of which vaginitis is a part, is not a disease which stands alone. There is a well-described disease, for instance, which affects the same systems of organs, and them alone, in women, called genito-urinary tuberculosis, a good example of which in the post-mortem room is one of the most interesting sights I know.

You are not to suppose that vaginitis is a usual result of alcoholism. In those not pregnant and not old a more common result is ovaritis and endometritis, like those produced by fevers. But whereas the ovaritis and endometritis of fever are temporary, the same diseases of alcoholism are only temporary if the alcoholism is also temporary.

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An example of another form of constitutional disease producing vaginitis I shall read to you. Here the vaginitis is connected with lupus. I shall not now give you the characteristics of the recurring vaginitis of lupus, because you will hear me read them in this report; and I ask your attention to the fact that the vaginitis was rapidly improved while the patient was under our care.

This form of vaginitis is often easily cured, but it is very liable to relapse: for I have classed it as of constitutional origin; and who will remove lupus from the constitution? The woman has myxœdema or cretinoid disease; she has lupus minimus of the orifice of the urethra and around the vaginal orifice; and she has diabetes. She came to us to be treated for vaginal discharge.

E. K., aged forty-one, married twelve years; has had two children, no miscarriage; last child born ten years ago, husband having been absent since then. Says she measured eighteen inches in girth at the waist before her last pregnancy; she now measures thirty-eight inches. Hands and feet were then small and fine. Gradually, during the last ten years, she has grown weaker and bigger. Hands, feet, face (especially lips and nose), and neighbourhood of umbilicus, have become thickened and coarse. Hands most affected, being thick, corrugated, clumsy, like those of a labourer, with the nails coarse, dirty-looking, and flattened. She has lost power to a great extent in arms and legs, being unable to grasp anything firmly, and finding it tedious and difficult to thread a needle. She cannot see, hear, smell, or taste as formerly. Ophthalmoscopic examination reveals nothing abnormal in the eyes. For the last three months she has been passing large quantities of water, and has not been able to retain it above a minute after the desire to urinate was felt. The quantity now passed is about a pint at a time; it has a specific gravity of 1042, and contains much sugar. On successive days she has passed 5½, 6½, 8, 6, 4, 7¾ pints. The fourchette is entire; at each side, and arranged around, and external to the proper vaginal orifice, are dark-red and tender patches. The vestibule between the clitoris and urethral orifice is red and pitted. The posterior half of margin of urethral orifice presents a prominent, caruncle-like ulcer with everted edges, not extremely sensitive. The cervix uteri contains an opaque (not yellow) mucus. The vagina has a measly-looking, mottled red surface, painted over with copious thin green pus; its surface is smooth, and no rugæ are seen. She has been treated for a few days with a vaginal injection of black-wash, and already the vaginitis has nearly gone, the surface looking scarcely redder than natural—not smooth and glazed as before, but presenting rugæ, and the pus being laudable.

Epoch, or age, here produces, not different diseases of the vagina (such differences as I illustrated in my last lecture), but it produces vaginitis of different kinds. You have no vaginitis in childhood. I, at least, have never seen any except of the lower part adjoining the hymen. Then, during mature life, you have the characteristic acute vaginitis, the venereal gonorrhœa, or a like disease, which may owe its origin to perfectly pure sexual intercourse. An acute vaginitis is not to be so designated, unless it has the combination of characters necessary to entitle it to that name. You must have intense inflammation rapidly coming on after the cause has acted, coming to a climax in eight or nine days, and then rapidly fading and going away altogether, or becoming chronic; and you must have, during the height of the disease, a copious flow of laudable pus.

The vagina in this disease generally presents a red, raw-like surface, beneath which there is little œdema, the rugæ not being obliterated. It is sometimes punctated, which probably arises from the injection of papillæ, and it is often granulated from the same cause.

The vaginitis of old age is generally subacute, and a similar disease is not rare during pregnancy and in the puerperal state. Rarely does the vagina, when in-

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spected, present the same appearance as in the acute vaginitis of youth. It is more frequently smooth, having a glazed appearance and feeling, the rugæ being obliterated and reappearing as the disease is cured; and sometimes you see areas over which the mucous surface seems to be destroyed, and these bleed readily, especially when touched. In many of these cases you are consulted not for vaginitis, but for so-called menorrhagia, which the woman supposes she is suffering from; and, as you know, this is an alarming symptom in old women.

This disease, especially in old women, leads to garrulitas vulvæ, not the garrulity of feeble-mindedness to which I have before referred. The vagina secretes air, and the woman may be extremely annoyed by passing it from the body. This is not the only explanation of passing air from the vagina, but it is the only one I at present mention; and I may remind you of the disease called vaginitis emphysematosa. In the subacute vaginitis of old women the bladder is very often simultaneously affected The pus is generally thin and green. It is sometimes extremely copious. Although the disease may depend greatly upon the permanent constitutional influence of senescence, it is upon the whole amenable to simple treatment. The vaginitis of the old is probably the cause of those common, partial, thin-edged vaginal strictures which are so frequently found high in the passage.

Now, besides these two forms of acute vaginitis, the vaginitis of mature life and of old age, you have chronic vaginitis.

Chronic vaginitis of youth occurs in various forms. There is a chronic vaginitis in which the vagina is hard and small, its rugæ well seen, but yet evidently swollen, œdematous, and with either no secretion or with the rugæ painted over by an old gray-white accumulation of sordid epithelial detritus. This kind of vaginitis is not rare, and it sometimes escapes notice, because, although it may be connected with vaginismus, it often produces no symptoms. Of this form we had a case in "Martha" a few days ago.

This, which may be called dry vaginitis, has its analogue in a disease of the deep cavities of the nose, which I have suspected as producing peculiar headache and giddiness, and which is assuaged or cured by the same soothing remedies as act on the disease in the vagina. Another disease I may mention, remotely analogous to this. Many of you remember the last ovariotomy performed in "Martha," and you must have seen that woman's uterus pulled out of the pelvis, red and having the appearance of a fresh section of raw beef. That was a case of dry chronic peritonitis without any secretion or symptoms. It did not interfere with her good recovery.

In some cases the cervix uteri is diseased as well as the vagina, and I shall read an example which occurred in "Martha" lately. In this we had, probably as a result of an acute vaginitis, a chronic vaginitis accompanied by cystitis, urethritis, and only imperfectly cured after long perseverance.

S. H., aged twenty-seven; general health good; has been married more than a year, but has not been pregnant. Has been under treatment, in another ward, for some months, for chronic catarrh of the bladder. Had an abscess in a labium majus, and yellow vaginal discharge, before admission to the hospital. Her urgent symptoms depend on frequent calls to painful urination. Private parts so tender as to necessitate the use of chloroform in most of the examinations. Vulva, vestibule, hymen, intensely red. Bladder hard, exquisitely tender, contracted so as to have only two inches from orifice of urethra to fundus. Laudable pus flows from vagina, and can be expressed from urethra. Speculum shows vagina to be red; rugæ not seen; surface not granulated, but has an œdematous appearance. Uterus healthy. To have hot hip-bath and morphia suppository at bedtime, and

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a copaiba mixture several times daily. Bismuth powder lotion twice daily per vaginam. Milk diet. Saline laxatives when required. Not to get out of bed. Under this treatment she gradually improved. Subsequently the bladder was daily washed with an acidulated solution of sulphate of quinine, two grains to an ounce; and still later with subnitrate of bismuth suspended in water. After three months of diligent treatment, the vaginitis and urethritis were cured, the bladder had greatly increased in capacity and was less irritable, but the urination was still unnaturally and distressingly frequent.

The chronic vaginitis of old age, as I have already said, is generally accompanied by pruritus, and frequently causes alarm by bleeding. Here is an example of it, in which we have, besides the vaginitis, incurable hypertrophy of the urethra.

E. S., aged forty-seven, has been married for twenty years, and has had three children, no miscarriage; the last child born twelve years ago. Catamenia began at thirteen years of age, and continued (with some irregularity the last twelve years) till a year ago, when they ceased. For nine years has had a green watery discharge from the vagina, which is, at least sometimes, fetid. Coitus very painful for the last two years. Her appearance is unhealthy, and her urine is loaded with lithates. The urethra is hypertrophied, hardened, and feeling like a small finger. Except slight redness, it presents no unnatural appearance to the eye. It is tender to touch per vaginam and on using the sound. The bladder and womb are natural. The vagina has a polished, slightly reddened, tender surface, which readily bleeds at various points when touched. Glycerine cotton plugs were used for three weeks, and for a month she had twice daily an astringent lotion of ten ounces of tepid water with thirty grains of alum, and as much of sulphate of zinc in solution. She was discharged greatly relieved, yet her disease was not quite cured.

I have mentioned many forms of vaginitis, and one important practical subject I must discuss briefly in connection with the forms of this disease. Is it, in any special case, venereal or not venereal? You will, in practice, often be asked this question, and I advise you never to answer it explicitly. You cannot decide absolutely whether a case is venereal or not. At one time it was supposed that the discovery of trichomonads, or a leptothrix, or a vibrio, would decide whether it was venereal or not. But this is now given up. I have seen gonorrhœa which was certainly not venereal bear every character of the ordinary venereal disease. I do not say that there is no distinction, but only that the distinction cannot be made out by the practitioner so as to justify him, from his own inquiries into a case, in giving a decided opinion on the subject. Meantime, the distinctions of venereal gonorrhœa are simply marks of severity. It has been said that venereal gonorrhœa is infectious, while simple gonorrhœa is not; but I have seen every character that can be predicated of the one occur in the other, as I said before, including infection.

What are the characters that make you suspect that a vaginitis is of venereal origin? It begins within a few days—generally two or three—of the infection; it is very severe, and runs an acute course; the secretion of pus is copious, beginning about the third day of the inflammation, and remaining copious for about a week or nine days. The vulva is generally affected, so that the woman has more or less difficulty in walking; and the vulva being affected, the inguinal glands are liable to be affected, and you may even have bubo. The urethra is affected, and also the bladder; there is liability to ovaritis and to periocphoritis; and there is the almost certain infection, not only by sexual intercourse, but by the matter touching any mucous surface, such as that of the eye.

I have little time to make remarks upon treatment, and indeed the treatment

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of this disease is illustrated by the cases I have read, and it is so well described in every text-book that it would be only waste of this day's time to enter upon it. It must be based upon a careful diagnosis, including the diagnosis of the local or constitutional origin of the disease, the diagnosis of the simplicity of the affection, or of its complication or extension to other parts.

The acute disease is treated by diet, and purgatives, and baths, and rest. Locally it is treated at first by emollient injection, such as that of decoction of poppy-heads; and afterwards by other injections, such as that of dilute liq. plumbi diacetatis; and at the end by injection of very dilute astringents, as of the sulpho-carbolate of zinc. All these injections are made with such an instrument as I here show you. The injection is of about ten ounces, and it is passed slowly through the vagina. It is good treatment, in a tiresome case, to apply weak, or sometimes strongish, solution of silver nitrate to the vagina, and that is done by a blunt-pointed glass syringe. You pass something like an ounce into the vagina, through it.

The chronic disease is treated in many respects as the acute or subacute, only you place more reliance upon the use of powders suspended in water—such as the white bismuth. An excellent remedy is a weak solution (five or six grains to the ounce) of sulpho-carbolate of zinc; and I shall conclude the lecture by reading to you a case of simple chronic vaginitis with smooth glazed surface, which, after we were afraid it would prove rebellious to treatment, was quickly cured by the use of the hot douche. This is the injection into the vagina of a large quantity of water at a blood heat; and the water is injected, for several minutes, with considerable force, which may be estimated by my telling you that it will throw it four and a half feet high. This powerful remedy proved of curative value in the case I am to read to you.

M. F., aged thirty-seven, has been married eight years, and has had no children. The catamenia began at thirteen years, and were regular and somewhat painful till recently, when they have been delayed sometimes to the extent of two weeks. For about nineteen months she has suffered from pain in the situation of the vagina, yellow discharge, painful coitus; and in the earlier period of her illness she had painful micturition. She has slight pain on pressure over the right kidney. No pain on defecation. The pain in the vagina comes in paroxysms several times a day. She says that the yellow discharge has latterly diminished considerably. The finger finds an unnatural smoothness of the vagina. The speculum reveals no disease of the cervix, but the vagina is smooth, slightly redder than natural, and painted over with yellowish muco-pus. After the failure of long-continued ordinary treatment as an out-patient, and for a short time in "Martha," she was ordered to have twice daily the vaginal douche of hot water at about blood-heat for some fifteen minutes each time. Of this treatment she quickly felt advantage, and after five days of it she left the hospital quite well. The vagina had lost its œdematous smoothness, and was pale and rugous in a natural manner.—*Med. Times and Gazette*, June 26, 1880.

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MONTHLY ABSTRACT.

Anatomy and Physiology.

The Effects of Cerebral Stimulation.

The movements which result when the cerebral motor zone of an animal is stimulated by electricity have been studied by means of the graphic method by MM. François Franck and Pitres, and the results which they have obtained are of considerable interest. The method adopted was to connect a myograph with the tendon of a muscle of the anterior or posterior limb of the animal experimented upon (dog, cat, or rabbit). The time elapsing before the movement was registered by electro-magnetic apparatus. The first point examined was the character of the movements. When the cortical excitation is a single stimulus, the contraction on the opposite side of the body is a simple muscular jerk. A series of stimulations not exceeding forty per second produce dissociated jerks. If the frequency of the stimuli attains forty-five per second, in the dog, the muscular contractions are fused together in a continuous contraction. A similar frequency of stimulation is necessary to cause tetanus in any animal, whether the stimulation is applied to the surface of the brain, to a motor nerve, or to a muscle. When, instead of employing stimulation sufficiently strong to cause isolated contractions, stimuli a little less strong are employed, the phenomena of summation may be observed. The first stimulation gives rise to no muscular contraction, and the jerks only appear after several stimulations. If the excitation is strong or prolonged, after a simple movement, directly provoked, an epileptiform attack occurs confined to the group of muscles corresponding to the centre stimulated. The attack may remain limited to this group, or extend to both limbs on that side, or to the whole body. It is usually constituted by two successive stages, the one of tonic contraction, the other of clonic spasm, in which the jerks are dissociated. Sometimes the initial tonic stage is absent. When one convulsive attack has occurred, the least excitation suffices to produce another. The convulsions, local or general, are not produced if, instead of stimulating the cortex, this is removed and the electrodes are applied to the subjacent white layer. Then, even with the strongest stimulation, no convulsions occur, only simple movements result. The excitability of the white fibres increases as the internal capsule is approached, so that, at this level, even weak stimulation suffices to produce a violent tetanus, with periodical, often rhythmical, exacerbations; this deserves, on account of its special characters, the term "capsular tetanus."

A delay occurs between the stimulation and the resulting movement, which is constant for each group of muscles in the same animal, whatever is the form or intensity of the electrical stimulus employed. A considerable part of this delay is due to the physiological resistance of the cortical gray layer. If the thin gray substance which covers the centrum ovale is removed at the point stimulated, and the white substance is then excited, the total delay lessens by a fourth or even by a third.

The movements produced by irritation of one side of the brain are not always limited to the muscles situated on the opposite side of the body; symmetrical contractions occur on the same side if the stimulation exceeds a certain degree of intensity. In this case the delay is greater for the associated movements on the

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same side than for the movements which occur on the side opposite to the hemisphere stimulated. When two points on the same side of the brain are simultaneously excited, the one corresponding to the upper limb, the other to the lower limb, the movement in the latter occurs at a later period than that in the former. This greater delay is probably due to the conduction in the spinal cord, the period of which, in the case of impulses proceeding from the brain, may thus be estimated.

A singular method has been applied by Dr. AMIDON, of New York, to the study of cerebral localization. Instead of observing the peripheral effect of central stimulation, he has endeavoured to determine the effect on the brain of voluntary movements, estimating it by the change to be ascertained in the local temperature. Finding that the temperature on the surface of the skull varies at different points when certain movements are executed for a time, he infers that the point at which the temperature is thus raised corresponds to the centre for that movement. Ten of Seguin's surface-thermometers were applied to different parts of the skull, and maintained in position by India-rubber bands; and the temperature of the several thermometers observed after a muscular effort maintained during several minutes. Proceeding thus, Dr. Amidon believes he has established the position of a series of centres which do not altogether correspond with those ascertained by FERRIER. The results have been communicated to the Société de Biologie of Paris, and in the discussion upon them M. PAUL BERT mentioned his own researches on the same subject. Employing a thermo-electric pile, with all necessary precautions, he found that talking in a loud voice caused an elevation of the temperature in the left anterior frontal region. He has also found a rise in the temperature of the head (ascertained in the frontal region) in children at the moment of waking. Examining the lateral regions of the skull, over the motor convolutions, he was never able to observe any change in the temperature on muscular exertion. This shows that the results of Dr. Amidon must be accepted with great caution, and it was suggested that the muscular exertion in the limbs may have been accompanied by contractions in the muscles of the head sufficient to cause the local rise in temperature. The negative results obtained by M. Bert in the motor region of the hemisphere render, for the same reason, the significance of the rise in temperature he has found in the frontal region during speaking very doubtful. One fact affording some corroboration to Dr. Amidon's conclusions was mentioned. One of the centres he describes is for the movement of the trapezius, and it corresponds to the part damaged in a patient of M. PONCET, in whom this muscle was paralyzed.—*Lancet*, June 12, 1880.

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The Formation of Callus.

MM. RIGAL and VIGNAL presented a note on this subject before the Paris Académie des Sciences, which is reported in the *Gazette Hebdomadaire* of June 4th. In 1865, M. Ranvier, in his *Thèse de Doctorat*, and in 1869, MM. Cornil and Ranvier, in their *Manuel d'Anatomie Pathologique*, taking experiments as their basis, showed that the callus in simple fracture, in the human subject as well as in animals, in the first instance went through a cartilaginous stage; whilst in compound fractures it became directly bony in the midst of fleshy granulations proceeding from the medullary substance of the fractured bone. M. Ranvier further demonstrated that the suppurative inflammation had no influence on the progress of ossification in the cartilaginous callus when this was already formed. The writers made the following experiment. From the middle third of the tibia of a full-grown rabbit, they removed the periosteum three or four times in succession, so as to thoroughly destroy all its osteogenic properties;

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then, a fortnight after the last removal, they fractured the bone in the centre. Twelve days after the fracture (at that stage there is always a cartilaginous callus in the rabbit), the animal was killed, and the examination of the fracture showed that in the midst of the fleshy granulations, proceeding from the enlarged canals of Havers, a distinctly bony peripheric callus had formed. This experiment, several times repeated, always yielded the same results. The following experiment is still more conclusive. The periosteum was removed on two occasions at a fortnight's interval. The wound being cicatrized, the bone was broken in the middle, as in the first experiment, and the animal was killed twelve days subsequently. At the posterior part, where the periosteum had been preserved, the callus had formed, as in simple fractures, by the aid of cartilage; whilst at the anterior part it was formed in the midst of fleshy granulations, as in suppurating and compound fractures. These experiments seem, then, to prove that the subperiosteal layer, when the irritation is active, as in fractures, contributes to the repair of the bone by becoming transformed into cartilaginous tissue. In another experiment, made on the same animal, the other conditions besides those to be created being exactly the same, after having divided the skin of one of the legs and carefully put aside the muscles until the periosteum was reached, the latter was somewhat strongly irritated by rubbing it with a highly polished surface—an agate burnisher, for instance—taking care not to touch the adjacent parts. On the opposite leg, the periosteum was irritated by thoroughly breaking up the adjacent soft parts, so as to bring on a sanguineous effusion. Then both wounds were closed by points of suture, and the animal was killed between the tenth and twelfth days. If union by first intention of the wounds in both legs had been obtained, some osteophytes would have been found under the periosteum of the first, whilst under that of the second larger or smaller cartilaginous masses would have been found. The last experiment explains the direct bony formation of the points of subperiosteal callus the furthest from the seat of the fracture. —*British Med. Journal*, June 19, 1880.

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The Blood in Febrile States.

M. HAYEM, who has added so much to our knowledge of various morbid states of the blood, has lately published some observations on the minute alterations in the mode of formation of the coagulum in various febrile states. When the blood is spread out in a thin layer under the microscope, the corpuscles are seen to assume a special arrangement. The irregular spaces which the rouleaux leave are larger and less numerous than under normal conditions. If, after coagulation, an attempt is made to separate the elements, it is found that the corpuscles are united by extremely fine filaments of fibrine, which cause them to assume very irregular shapes; they present also an abnormal viscosity when compressed by the surrounding fibrine. Other changes which the blood presents cannot be, with certainty, ascribed to the inflammatory processes. Even when the pyrexia is high there is no alteration in the dimensions of the red corpuscles. The increase in the number of leucocytes affects equally all forms of pale corpuscles, their mutual proportion being about the same as in normal blood. Nor do these present any structural alterations; their amœboid movements are the same as in health, except that they are somewhat interfered with by the filaments of fibrine which adhere to them. Many "hæmatoblasts" occupy the empty spaces, and like the red corpuscles, they become more viscous and adherent one to another, and hence quickly form masses, notably larger than those seem in normal blood. Very soon a reticulum appears, considerably denser than in other circumstances, the constituent filaments being thicker and closer than those of normal blood.

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During this formation, the hæmatoblasts have fused together into little blocks of waxy aspect, to which large numbers of fibrils are attached, giving them a characteristic appearance of balls of spines. The excess of fibrine in the blood gives rise to another appearance if the blood is diluted with the liquid used in the ordinary numeration of the corpuscles; minute solid particles become visible to the naked eye in the mixture, an appearance never seen with normal blood. These particles are composed of hæmatoblasts, surrounded by a finely granular or fibrillar substance, to which many leucocytes and red corpuscles adhere. These changes in the blood may be found, although in a less marked degree, in cases of chronic, as well as in acute, inflammation.—*Lancet*, June 19, 1880.

Materia Medica and Therapeutics.

On the Physiological and Therapeutic Properties of the Alkaloids of the Pomegranate.

M. DUJARDIN-BEAUMETZ read a paper on this subject at the meeting of the Paris Académie de Médecine on May 18, in which he postulated the following conclusions: 1. The alkaloids of the pomegranates possess real and powerful physiological properties. 2. These alkaloids induce paralysis of the motor nerves, whilst preserving intact muscular contractility. They do not attack sensibility, and seem to strike the motor nerves at once in their muscular terminations. They act like curare. 3. The sulphates of pelletierine and of isopelletierine possess very active tænicide properties, and in doses of three centigrammes (1.2 grains) in a solution containing half a gramme of tannin, they induce in the majority of cases (thirty-seven times out of thirty-nine, according to Dujardin-Beaumetz, and nineteen times out of nineteen, according to Laboulbène), the expulsion of the tænia with the head. 4. New attempts should be made to apply the physiological properties of these salts in the treatment of certain diseases; in the first instance in those in which curare has already been indicated, as tetanus and rabies; in ocular affections, in which it is necessary to induce active congestion; in the fundus of the eye; finally, in certain forms of vertigo, especially in that of Menière's disease.—*London Med. Record*, June 15, 1880.

On Diuretics.

Dr. MAUREL (*Bulletin Général de Thérapeutique*, March 30, 1880) has lately conducted a series of experiments on the action of certain of the most commonly used diuretics, such as potassic nitrate, chlorate, acetate, and iodide, sodic salicylate, digitalis, colchicum, and squills, the latter in the form both of tincture and of oxymel. The experiments extended over a period of forty-six days, and were undertaken on the same individuals. The general conclusions pointed to great uncertainty in the diuretic action of all these medicines; the most active was potassic nitrate, which increased the solid constituents as much as ten per cent. in the twenty-four hours. The other substances gave an increase of from five to six per cent. only. Digitalis alone gave constant results upon the excretion of water, which it notably augmented. The author believes that diuretics as a class, whether administered in health or in disease, have very little real power. In many cases, the increased excretion which they apparently induce should rather be set down to other causes, such as changes in temperature, nervous influences, or a "crisis" in certain morbid states. The real proof of the

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power of diuretics would lie in their augmenting the urine at periods when it was naturally suppressed, such as in the early febrile stage of many affections; but, judged by this test, all his experiments point to their being practically inefficacious.—*London. Med. Record*, June 15, 1880.

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Peptones.

M. BERGERON writes in *L' Union Médicale* of June 5th, that he has been experimenting with peptones. He has lately had under his care an ill-nourished child two years old, of whom the mother was thirty-five years old, and the father showed undeniable traces of scrofula. When M. Bergeron saw this child for the first time, she was confined to bed, exhausted by a fetid and constant diarrhœa. The lower limbs were affected by lymphangitis. The lungs were not affected; but M. Bergeron suspected fatty degeneration of the liver and kidneys. He put the child on an exclusively milk diet. The stools, which still remained frequent, retained a disagreeable smell. The child's weight varied from 9 to 8.9 kilogrammes (about 19 lbs.). He attempted to stimulate this frail organism by the aid of alcoholics, which sometimes almost intoxicated the child. He then decided to give her peptones, of which she took at first a teaspoonful night and morning in broth, increasing the dose to four teaspoonfuls a day. She took this nourishment without any difficulty. At the commencement of the trial, she weighed 8.90 kilogrammes; ten days later on, she had gained 500 grammes. The diarrhœa might be said to be stopped. Ten days later on, the weight remained the same. During that time, the child had been troubled by the eruption of two molar teeth, and by a slight recurrence of diarrhœa. In another ten days, she had gained 600 grammes, and then weighed 10 kilogrammes (22 lbs.). After the first week of this regimen, the little patient had left her bed, and her features regained vivacity and expression. In another case, an adult had been bed-ridden for two years, and had been treated for cancer and stricture of the cardia; which, however, M. Bergeron believed to be chronic gastritis with dilatation. This patient had considerable depression of strength, continual vomiting of glairy matters, intermittent epigastric pain, retracted abdomen, notable emaciation, obstinate constipation, and eructations. The tongue was normal. Every kind of drug having been tried in vain, M. Bergeron gave peptones in doses of three spoonfuls daily in the form of an injection, and as many by the mouth. After the tenth dose, the patient was able to get up and walk with crutches. The dose was afterwards progressively increased, and she was able to walk in the garden, dispensing with the crutches. This form of treatment is still being continued, and M. Bergeron is in hopes of obtaining a complete cure. He was particularly struck, in the use of this regimen, with the consequent renewal of appetite, especially when the peptone was administered in a little broth in the morning before the patient had broken her fast. He believes that peptone should not be considered as a direct peptogen, but rather as a nourishment, which, once received into the stomach, is rapidly absorbed, and leaves this organ aroused to the work of digestion without finding any material for the function. M. Bergeron relates another case, of a nervous and anæmic young woman who complained of disgust for food. He tried tonics, bitters, and nux vomica, without any result. Quite tired of her incessant complaints, M. Bergeron at last advised her to take every morning, fasting, a teaspoonful of peptone in a glass of Malaga, as she could not take beef-tea. She commenced the treatment the next day, and in an hour she had an excellent appetite, and expressed herself as being obliged to take something. She was so delighted with the result, that she never failed to take a teaspoonful of peptone in a little Malaga wine an hour before every meal.—*British Med. Journal*, June 19, 1880.

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Therapeutic Use of the Pancreas.

All attempts to utilize in a therapeutic sense the very active properties of the pancreatic juice have hitherto failed. This want of success, according to ENGESSER (*Deutsches Archiv für Klin. Med.*, Band xxiv. p. 539, and *Gazette Hebdomadaire*), is owing to the necessity by a natural tendency of first isolating the ferments, in order to administer them afterwards in the pure form. These isolated ferments being destroyed by the pepsine of the stomach in normal digestion, the only field left for their use is the very limited one of the large intestine. The pancreatic parenchyma, or even the fresh watery extract, on the contrary, retains its digestive properties whilst passing through the stomach. This point, though difficult to explain, is supported by numerous observations and experiments. Unfortunately, patients take the pancreas cut into small pieces, or pounded and passed through a sieve, with the greatest repugnance. To avoid this serious drawback, since the use of the pancreas should be greatly prolonged, the author has had many preparations made. He finally settled on the following method. The gland, cut in small pieces, was reduced *in vacuo* at 104° Fahr. to an extract, then treated during forty-eight hours by absolute alcohol, which is afterwards carefully evaporated. A coarse, light brown, highly hygroscopic powder is thus obtained, which patients take without disgust, and which possesses all the qualities of the fresh watery extract. If clinical observations be consulted, it will be found that the action of the pancreatic juice is clear enough, but that the indications for it remain very limited up to the present time. Fles published in 1864 the case of a diabetic patient, who ate a great deal of meat and fat, and in whose stools a quantity of fatty matter and muscular tissue were found in an unchanged condition. The use of the pancreatic juice caused these undigested fragments to disappear immediately, and they reappeared directly the administration of the drug was left off. This remarkable observation may be considered as a type of the circumstances in which the pancreatic parenchyma may be usefully employed. Engesser has obtained good results in cases of acid dyspepsia, dilatation of the stomach, nervous dyspepsia, etc., whenever the presence of undigested muscular fibres is detected in the egesta. The use of pancreatic juice has in every instance removed these fragments, but produced very slight improvement in these essentially chronic diseases.—*Lond. Med. Record*, June 15, 1880.

Phosphate of Bismuth.

M. TEDENAT (*Montpellier Médical*, July 1879, p. 83) recommends the employment of phosphate of bismuth, which he prefers to the nitrate. The antidiarrhœal action of phosphate of bismuth is manifested in the same way as the subnitrate. In consequence, however, of its greater insolubility, the phosphate acts in rather weaker doses, especially in gastric affections. Notwithstanding the acidity of the gastric fluids, it is not in the slightest degree affected, which is but natural, since it resists strong acids, even in a concentrated form. The phosphate acts in somewhat smaller doses than the subnitrate, and the difference in activity is sufficiently great to create a superiority from this point of view in favour of the phosphate. The doses are likewise varied, according to the nature of the case. They are usually about from one to two grammes. The mode of administration is absolutely identical with that of the subnitrate. With infants it suffices to place the desired quantity on the tongue, and to offer the breast or the bottle. The salt is easily conveyed into the stomach, and it is possible by this means to administer large doses. Adults take this drug suspended in some liquid. In many cases some advantage is found in making it into sweetmeats and pastilles of about one to two grammes. They become disintegrated in the

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mouth, and the phosphate is gradually conveyed into the stomach without the patient having been able to perceive the presence of an insoluble salt in the mouth. The phosphate finds its application in all the diseases in which the use of the subnitrate is indicated. It is preferable to it in every case, on account of its somewhat greater activity, and especially in affections in which the reconstituent effect, due to the absorption of phosphoric acid, finds its indication.—*Lond. Med. Record*, June 15, 1880.

Medicine.

Dietetic Treatment of Cancer.

Prof. BENEKE, of Marburg (*Berlin Klin. Wochenschrift*, No. 2, 1880), repeats a former suggestion of his, to the effect that by dieting patients with cancer, and especially those suffering from its soft forms, with food from which the albuminates, the alkaline and the earthy phosphates are to a great extent excluded, much may be done to check the abnormal cell-proliferation, and prolong, if not save, the patients' lives. He assumes that cancer-cells are relatively rich in cholea-stearin, leathin, and the above-mentioned phosphates, and the great source of these is animal food. Hence Dr. Beneke's cancer-diet allows only fifty grammes (barely two ounces) of meat, weighed before cooking, *per diem*, supplemented with a little fish in the form of anchovies, *sardines a l'huile*, or fresh herrings. Butter, sugar, rice, sago, potatoes, cream, nearly all kinds of fruit and green vegetables, are allowed, but bread is given sparingly or replaced by biscuits in limited quantity, and milk is excluded. As drinks, black tea with cream, cocoa, light Moselle or Rhine wines, and occasionally champagne, are allowed. Beer, owing to its richness in alkaline phosphates, must only be sparingly taken. Professor Beneke gives a diet-table for each meal in the day, the details of which we have not space to insert. He calculates that by following his rules the normal ratio of the nitrogenous to the non-nitrogenous constituents in ordinary mixed diet —namely, 1 : 5—can be reduced to 1 : 8 or 9. The potassium salts also enter the body chiefly as vegetable combinations, and not as phosphates, and the alkalinity of the blood-serum is thereby increased so as more nearly to resemble its condition in the herbivora, in whom Professor Beneke remarks, cancer is very rare. In answer to the possible question, "Can a man exist on a diet so deficient in nitrogen and phosphates?" he quotes the *ipsissima verba* of several patients in the affirmative. One of these, an Englishman (affected, however, not with cancer, but with rheumatoid arthritis), has persevered in it for six years, with gain of weight and muscular force, as well also, according to his own statement, of mental vigour. As to the practical value of the method there is at present little to be said. Professor Beneke can muster only eight cases it which it has been tried—five by Esmarch and Oldekop, and three by himself. Two of the five were too far advanced for operation, and soon died; two others also died after several operations. The fifth—a simple cancer of the breast, which was also treated with liquor arsenicalis—was operated on without relapse. Beneke's own three cases were all alive at the last report. It would be easy to try the diet on a large scale either at the Cancer Hospital or in the cancer wards of the Middlesex Hospital, but as Beneke insists, it must be strictly carried out, and the theoretical principles on which it is founded must be steadily kept in view by the surgeon in charge. To those patients who require more fat than is prescribed in the diet-table, and who cannot tolerate butter, cod's oil may be given. Those inclined to corpulence should take small doses of Carlsbad salts regularly during the

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"cure." In conclusion, Beneke points out that if, as is probable, the cancerous and the scrofulous diathesis are in many ways diametrically opposed to each other, what his dietetic system seeks is to reduce the former to the latter.—*Med. Times and Gaz.*, June 26, 1880.

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Disinfection of the Stools in Typhoid Fever by Charcoal.

M. MAUREL, a naval surgeon, stated at the Therapeutical Society (*Lyon Méd.*, May 23) that the fetid stools in typhoid fever are easily disinfected by administering one and a half or two grammes of Belloc's charcoal. The absorption of putrid matters is obviated, and the favourable issue of intestinal ulceration is assured. The charcoal may even destroy the infectious agent, and it suppresses the fetid odour of the stools. Dr. Guéneau de Mussy observed that for the prevention of auto-infection Chomel was in the habit of giving chloride of lime in typhoid cases, and that he himself has for a long time past administered for the same object salicylic acid in rice-water, sometimes adding a little lemon-juice. M. Constantin Paul, in imitation of Polli, administers the hyposulphite of soda in enemata when the intestine is gravely affected, using them cold in typhoid fever, and tepid in dysentery. As to the action of charcoal, judging from the fact that when it gains admission to the lungs it sometimes causes chronic pneumonia, he fears that it might cause too much irritation of the Peyerian patches; it does not combat flatulence as an absorbent, but as a stimulant, restoring their vitality to the tissues and exciting them to fulfil their functions. M. Grellety observed that Dr. Bouchard gives a tablespoonful of charcoal every three hours. The fetid odour disappears, and neither hemorrhage nor other accident is produced. The statistical results of this treatment are very favourable.—*Med. Times and Gazette*, June 12, 1880.

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Local Antiseptic Treatment of Smallpox.

Dr. ERNST SCHWIMMER, of Buda-Pesth (*Deutsche Medicin. Wochenschrift*, May 8th), having obtained no result from the internal administration of carbolic acid, salicylic acid, and thymol in smallpox, has tried the external use of carbolic acid and thymol. The formulæ which he employed were the following; a soft paste being made in each case. 1. Carbolic acid, 4 to 10 parts; olive oil, 40 parts; finely powdered prepared chalk, 60 parts. 2. Carbolic acid, 5 parts; olive oil, very pure starch, of each 40 parts. 3. Thymol, 2 parts; linseed oil, 40 parts; prepared chalk, 60 parts. His principal object was to prevent the disfigurement of the face as much as possible. For this purpose, when the patients were admitted into hospital and the presence of an eruption of intense or confluent variola on the face was ascertained, the paste was applied to the parts on a linen mask, in which openings were cut for the eyes, nose, and mouth. The greatest amount of success was obtained from the paste No. 1, which was used in 177 cases. Under its use, the drying of the pustules took place some days earlier than usual, and in several cases no great amount of suppuration occurred on the face. That it was the carbolic acid which produced this favourable result, the author considers proved, not only by the fact that other ointments had been used on previous occasions without effect, but also by the circumstance that carbolic acid could be detected in the developed pustules after the paste had been applied four days, and that the urine gave the characteristic reaction of carbolic acid. Dr. Schwimmer strongly recommends the local application of carbolic acid in variola. —*British Med. Journal*, June 12, 1880.

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Hæmophilia.

Dr. ZIELEWICZ, of Posen, relates in the *Centralblatt für Chirurgie*, for April 17, the following interesting case: An anæmic lad, eleven years of age, was brought into the Children's Hospital on January 2, on account of an injury to the right knee, caused about a month before by a fall. He continued to go to school after the accident, until the increasing pain and swelling obliged him to be confined to bed. The circumference of the knee was thirty-five centimetres, that of the left being twenty-seven, and the patella was almost immovable. There was a slight contraction of the knee, and the muscular substance of this limb was feebler than that of the other. On examination, under anæsthetics, only an indistinct fluctuation could be perceived, the sensation conveyed being almost that of a doughy substance. By means of a Pravaz's syringe, some clear fluid blood was withdrawn. The joint was firmly inclosed in a plaster-of-Paris bandage, which caused no pain whatever. On January 19, this was removed, and almost immediately there was produced in the knee, which during the treatment had continued unchanged, such dreadful pain that the hitherto apathetic and patient child tossed about the bed like one mad. The tongue was dry, and the temperature in the evening was 37.7° C. In spite of morphia injections, and painting the joint with iodoform, the condition of things remained much the same until the 21st. The knee now measured thirty-three centimetres, and was very painful to the touch. The boy was very restless, with a temperature of 38.3°. C.

Button-hole apertures were now made, under carbolic acid spray, at the lowest part of the joint, on each side of the patella; and blood spouting out of the openings, irrigations with acetate of alumina were resorted to, with the apparent effect of arresting the bleeding. On the finger being introduced, it was ascertained that the joint was filled with coagulated blood, which adhered pretty firmly to the capsule. In order to facilitate the removal of the coagula from the upper portion of the joint, an aperture was made there also; and elastic drainage-tubes having been introduced, active irrigation with the acetate was kept up until the joint had become entirely freed of coagula, and the bleeding, which during the operation had continued to diminish, only continued trickling from one of the lateral openings. A compressing bandage was then applied.

Called to the patient two hours afterwards, the reporter found him and the bed inundated with blood, alarming collapse having set in. On the removal of the bandage, the entire joint, drainage-tubes, and apertures were filled with coagulated blood, fluid blood also trickling away. Digital compression of the femoral artery and various other means were tried in vain, the boy dying twenty hours after the operation.

On examination after death, the joint was found filled with loose coagula, in part floating in fluid blood, and in part adhering to the walls of the capsule. The ligaments were uninjured, and no laceration of the capsule had taken place. The popliteal vessels were in an entirely normal condition.

Although no anatomical cause of death was here discoverable, it was afterwards ascertained that the boy had formerly bled for three weeks after having had a tooth drawn, and had never been properly himself since. The peculiarity of the case consisted, therefore, in the occurrence of a traumatic injury to the joint in a subject of constitutional hemorrhage. This condition of hæmophilia explains how it was that this effusion of blood existed without either undergoing absorption or giving rise to suppuration.

After relating to the Vienna Doctoren-Collegium (*Allg. Wien. Med. Zeit.*, April 13) some cases of hæmophilia which had occurred in his practice, Dr. Hertzka adverted to the principal facts connected with this disease. The Ger-

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manic race, it would seem, is especially liable to it, for while, in 219 families disposed to hæmophilia mentioned by Immerman, 119 belonged to England, Germany, or North America, only 50 were French, Russians, Swedes, etc.; and no case is known to have occurred in Italy. Jewish families seem to be especially liable to it. It is a general congenital diathesis, which may or may not be hereditary, occurring very much more frequently in males than in females, so that of 650 cases 602 were males and 48 females. But the female members of bleeding families, even when they are not "bleeders" themselves, are more dangerous, because they keep up the hereditary disposition; while in the men of such families who have not been bleeders this hardly ever occurs.

The first hemorrhage is observed during the first or second year in about 70 per cent. of the whole number; and although hemorrhage may occur later, it has never been met with in a well-marked case of hæmophilia for the first time after the twenty-second year. Rudimentary forms of the disease may occur at a later period. The fertility of bleeding families is great, so that Grandidier counted 442 children in forty-five families, and Wachsmuth 114 in 12 families.

The affection is usually hereditary, and its subjects are generally fair with blue eyes, having a delicate, pale skin. The bleeding in hæmophilia may be either traumatic or spontaneous; and both of these may be either superficial or interstitial. In the traumatic cases the bleeding usually, but not always, immediately succeeds the injury; and in one case, in which the external skin, to all appearance, was uninjured, violent hemorrhage occurred in half an hour. Frequently the slightest injuries give rise to severe hemorrhage, while large wounds are sometimes unattended with ill effects. Incision of the frænum linguæ has proved fatal, and the cases in which death has followed ritual circumcision are rather numerous; and even vaccination has been attended with serious hemorrhage. Extraction of teeth has given rise to most dangerous bleeding; and Dr. Hertzka alludes to the case of a boy, whose brother had died in consequence of circumcision, and who bled for eight days after the extraction of a tooth. Spontaneous hæmophilia usually appears at a later period than the traumatic. Bleeding from the nasal membrane and the skin occupy the first place, the hemorrhage under the skin varying in size from that of a pea to that of a man's hand. These extravasations usually soon disappear again. Bleeding from the stomach, intestinal canal, kidneys, and other organs, is of rarer occurrence. Pseudo-rheumatic pains and swellings of the joints are not an uncommon accompaniment of hæmophilia.

The affection usually lasts for the life of the individual, and the duration of the different attacks varies from some hours to days, or even weeks. It usually proves fatal, for Grandidier, of 212 subjects of hæmophilia, found only 101 who had reached their eighth, and only twenty-four who had reached their twenty-second year. Instances, however, are known of their having reached their sixtieth year.

The prognosis is more unfavourable the earlier the disease has appeared; and when a child has reached its eighth year, less uneasiness may be felt about it, although the danger of a recurrence of the hemorrhage must never be underrated. Superficial bleeding is more unfavourable than interstitial, and internal is more dangerous than external.

The prophylaxis is of importance, both with regard to preventing the production of new cases and to lessening the number of attacks in those who have exhibited the disposition. Thus, among the members of bleeding families, or when hæmophilia is suspected, all wounds, even the slightest, and injuries, and most especially tooth-drawing and circumcision, must be absolutely avoided; while in the anæmic, iodine, iron, and strengthening food should be habitually employed;

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and in the plethoric, cold applications, acetate of lead, and ergot. Alcohol, hot drinks, and excessive bodily exertion are mischievous.

In treating these cases the hemorrhage must be arrested as soon as possible, rejecting the advice of those who recommend that in the plethoric time should be given for the pulse to diminish in force. Seeing the difficulty there so often is in staying the blood, any delay, especially in children, is most dangerous.—*Med. Times and Gazette*, June 26, 1880.

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Drugs in Epilepsy.

In the annual report of the Derby County Lunatic Asylum which has just been published, Dr. MURRAY LINDSAY records the results obtained from the administration of certain drugs—sumbul, bromide of potassium, zinc, arsenic, nitrite of amyl, and nitro-glycerin—to a group of confirmed epileptics. The trials made of these drugs have not been sufficiently numerous nor long continued to warrant any definite conclusions, but they have certainly afforded some interesting and suggestive results, and must encourage to further experiment. As might have been anticipated, Dr. Murray Lindsay has found that bromide of potassium is the remedy from which benefit is most surely and generally derived in chronic epileptics, and by which the frequency and severity of the fits is most certainly diminished. But, while according to this remedy the first place in the *rôle* of medicines useful in epilepsy, he assigns positions of subordinate but still material usefulness to nitrite of amyl and nitro-glycerin. The latter drug has not before been tried in epilepsy, and much interest therefore attaches to the provisional conclusion of Dr. Murray Lindsay and his colleague Dr. Thompson respecting it, that, while in some cases it decidedly aggravated the malady and increased the number of fits, in other cases—those in which there was marked anæmia—it conferred benefit and diminished the frequency and severity of the seizures. It was administered in doses of from one to ten minims of a one per cent. solution, and was pushed in some cases until its physiological effects, quickening of the pulse and throbbing of the arteries, were established. Even when taken continuously for three months, it had no ill effects upon the general health. Nitrite of amyl is, Dr. Murray Lindsay thinks, most useful when bromide of potassium fails to act. From sumbul, arsenic, and zinc, he obtained no appreciable effects.—*British Med. Journal*, June 12, 1880.

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Hysteria in Children.

Dr. H. PARIS has written a thesis on this subject (Paris, March, 1880, and *Journal de Thérapeutique*, 10th May). Notwithstanding the almost universal silence regarding hysteria on the part of pathologists who have concerned themselves with the diseases of childhood, it is quite certain that a number of very young girls suffer from this affection. Out of 430 cases recorded by Briquet, hysteria was developed in childhood; that is to say, up to twelve years of age, the period when puberty commences. Hysteria in young girls is caused by alcoholism, epilepsy, and even phthisis in the parents; by chlorosis, moral troubles, and bad treatment. With regard to its treatment, if left to itself, it has no tendency to improve; prophylactic treatment is the most efficacious, and should consist in a sensible education, of which the objects may thus be defined: to develop the physical side, and to avoid precocious development, either of intellectual or of emotional faculties. Country life, very simple habits, walks, and active games are indicated. The children should be kept up by a tonic regimen, quinine, and iron. Amongst the more special agents, the most efficacious are bromide of potassium and arsenic; the first in doses of from two

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to six grammes (30 to 90 grains); the second in the form of Fowler's solution, of which the daily dose, easily tolerated by children, may be as large as ten drops, given in divided quantities. Surprising results are often obtained with hydrotherapy in its various forms, prolonged warm baths, cold baths, cold applications, and especially spray and shower baths.—*London Med. Record*, June 15, 1880.

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Laryngeal Chorea.

Dr. SCHRÖTTER, in the *Allgemeine Wiener Medizinische Zeitung*, No. 7, gives this name to a class of cases characterized by a peculiar barking or crowing cough, over which the patient has no control, and which is totally different from that observed in other affections of the air passages. In certain cases of hysteria, such a cough may occur, and it is occasionally simulated; but in many instances it cannot be attributed to either of these causes. That this affection is of the nature of chorea, Schrötter believes from the following: 1. The patient has no control over the attacks. 2. The spasmodic contractions disappear during sleep. 3. Other muscles, not connected with the larynx, are occasionally also affected in persons thus attacked. 4. Other nervous affections may manifest themselves in the same person or family. 5. The relapses are frequent. Eleven cases have come under his notice; most of them were children between the ages of 8 and 14. He believes the affection is a motor neurosis, but thinks there is no proof of its originating in the central nervous system. The treatment consisted in the cold shower-bath, quinine in large doses, tonics, iron to anæmic persons, and the application of the constant current.

M. MASSEI, in the *International Journal of the Medical Sciences*, of Naples, writes to object to the term laryngeal chorea, as applied by Schrötter to the class of cases described in the paper of which the foregoing is an abstract. Dr. Massei considers the affection due to a hyperæsthesia of the reflex sensibility of the larynx. He argues as follows: If the mucous membrane of the larynx be slightly acted upon, the only effect produced will be the excitation of the expiratory muscles, and a convulsive movement, ushered in by a cough; while inspiration, difficult at first, will soon become normal. If, on the other hand, the mucous membrane be acted upon by strong excitants, convulsive occlusion follows, ushered in by more or less prolonged and sonorous inspiration. In both these cases the nerve-terminations receiving the impression are the same; the mode only in which they respond is different. We have a right, then, to distinguish "common" or "reflex sensibility" from "general sensibility." Choreic movement then, is a constant consequence of the morbid excitation of the sensibility of the mucous membrane. This being so, why should we call that special, sonorous, short, very frequent cough, laryngeal chorea, and not apply the same term to spasm of the glottis, since either may be produced according to the degree of excitation?—*London Med. Record*, June 15, 1880.

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Diagnosis between Syphilis and Laryngeal Phthisis.

MOURE (*Annales des Maladies de l'Oreille et du Larynx*, Feb. 1880) compares the symptoms of these affections at different periods: 1. The early stages of laryngeal phthisis with secondary syphilis; 2. The ulcerative stages of laryngeal phthisis with tertiary syphilis. The principal symptoms which he passes in review are those furnished by the voice, cough, expectoration, pain, respiration, enlargement of the glands, and local appearance of the disease. In the secondary period of syphilitic laryngitis the voice may be normal or hoarse; in the tertiary rarely aphonic, but always hoarse. In early tuberculosis the voice is husky,

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and there may sometimes be aphonia; in the ulcerative stage, aphonia is always present. In secondary syphilis there is no cough: it is also rare in the tertiary stage, but is very frequent in the ulcerative period of laryngeal phthisis. There is no expectoration in secondary syphilis; but it is present, and may be blood-stained and purulent, in the tertiary. In commencing laryngeal phthisis it is mucoid, and in the ulcerative period muco-purulent. The pain is nocturnal in syphilis. The cervical and submaxillary glands usually swell in syphilis, whereas in tuberculosis they do not enlarge, but often atrophy. Both affections show hyperæmia of the mucous membrane: in phthisis it affects the arytenoid region, and is roseate in colour; in syphilis it affects the front part or the free edge of the vocal cords, and in colour is dark red. The mucous patches of syphilis project above the mucous membrane, are depressed at their centres, and are surrounded by inflammatory redness. Tuberculous erosions, though gray like the mucous patches, differ in not projecting above the level of the mucous membrane; their edges are confused and irregular. Gummata are apt to be mistaken for tubercles, and syphilitic for tuberculous ulceration. Gummata are large and yellow, and cause projections under the mucous membrane: tubercles are gray, opaline and small, and give a granular appearance to the mucous membrane. Gummata affect chiefly the epiglottis, the glottic portion of the larynx, and the trachea; tubercles appear most often on the subglottic portion of the arytenoid cartilages. The ulcers in syphilis are solitary or few in number, their edges are hardened and cut perpendicularly; in tuberculosis they are oval or round, with dentated edges, often covered with fleshy granulations or polypoid vegetations. Both ulcerations affect the epiglottis, but differ in their mode of evolution. In phthisis they proceed from below upwards, and from the periphery to the centre; in syphilis the process is reversed. The affection can always be arrested in syphilis; this is impossible in tuberculosis, especially if the ulcerative stage have been reached.—*London Med. Record*, June 15, 1880.

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Treatment of the Acute Pneumonia of Adults by Digitalis and Alcohol.

Dr. ALBERT JOLY (*Revue Médicale de Toulouse*, July, 1879, and *Bulletin Général de Thérapeutique*, May 30) gives an account of the results obtained by Dr. ALIX in the military hospital at Toulouse, by the use of digitalis and alcohol in the treatment of pneumonia. He arrives at the following conclusions. 1. The gravity of either simple or double pneumonia, if uncomplicated, is *nil*, if its normal evolution and its natural tendency to recovery be not disturbed by ill-timed medication. 2. Its affinity with the eruptive fevers (internal herpes of some writers) seems to be confirmed by the very regular progress, of which the proof is given by tracings. 3. Pneumonia is an essentially debilitating disease, in which the temperature falls below the normal rate more than in any other inflammatory disease. It evidently results that the chief indication is to combat this debility, and to strengthen the organism by stimulants, notably by alcohol, which is also an arrester of waste. Nevertheless, as the temperature, even by its rise, often constitutes a danger, it is necessary to anticipate it, not by venesection nor by tartar emetic, which agitate and weaken the patient, but by digitalis, the advantageous effects of which cannot be denied. 4. Every fresh cause of hyperthermia should be carefully avoided from the outset, and consequently cupping must not be allowed, as by the wound it produces and the accidents it brings on it raises the temperature in a notable way. 5. Pulmonary exudative repletion, which creates a danger by its abundance, must be carefully avoided; consequently, opium, which favours it, must not be given. It also results that cupping must be avoided, as by immobilizing the chest it obstructs expectora-

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tion. These conclusions are, it is stated, confirmed by the consideration of the results obtained.—*London Med. Record*, June 15, 1880.

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Tincture of Eucalyptus in Pulmonary Gangrene.

M. RAYNAUD, in a clinical lecture to his pupils at the Charité Hospital (*Journal de Médecine*, May, 1880), speaks strongly of the good effects of tincture of eucalyptus in large doses in this affection. He referred specially to the case of a man who had been ill for three weeks, in whom the gangrene commenced as pneumonia. It soon became confirmed, and was followed by a manifest cavern under the left clavicle. This patient was in a very serious condition when he began to take the eucalyptus, but at the end of three days there was a notable improvement. The man was aged 69, and recovered, with complete disappearance of the physical signs indicating the existence of a cavern. Another of M. Raynaud's patients, suffering from pulmonary gangrene, after having been operated on for cancer of the tongue, was cured of the gangrene by the influence of the same drug, and the operation also gave a satisfactory result. In the first case, M. Raynaud intends to employ the tincture of eucalyptus in doses of from six to eight grammes a day, and to join with it Trousseau's treatment, which consists in inhalations of terebinthine. Inspiration is effected by means of a tube inserted in a bottle of the essence.—*London Med. Record*, June 15, 1880.

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Subphrenic Pyopneumothorax and Abscesses.

Under the name of subphrenic pyopneumothorax, Dr. E. LEYDEN describes, in the *Zeitschrift für Klinische Medicin*, Band I., cavities full of air and pus formed beneath the diaphragm, and extending more or less into the thoracic cavity so as to produce physical signs very closely resembling those of genuine pyopneumothorax. These abscesses may be formed either on the right or on the left side. The mechanism of the origin of these air-containing suppurating cavities is closely connected with a history of perforative peritonitis; they are most frequently the result of perforating ulcers of the stomach or duodenum. Their tendency, when left to themselves, is almost without exception towards death. It appears that they most frequently perforate the lung: but they may discharge in other ways. Perforation of the stomach or of the transverse colon may end favourably. Dr. Leyden's observations have shown him that the diagnosis of subphrenic pyopneumothorax may generally be made with certainty; and the diagnosis is of great practical importance, as life may be saved by operation. The following are, according to Leyden, the diagnostic characters of subphrenic pyopneumothorax. 1. The development of the disease is preceded by symptoms of general (perforative) peritonitis or discharge of pus by the bowel. 2. An exudation takes place in the lower part of the thorax (right or left) with symptoms of inflammation: cough and expectoration being absent, at least for a long time. 3. There are distinct symptoms of pyopneumothorax in the lower part of the chest: viz., complete resonance on percussion as far as the border of the ribs, and dulness in the lower and posterior part: in this region the respiratory murmur and vocal fremitus are absent, and metallic tinkling is heard on simultaneous auscultation and percussion: the succussion sound is distinct. 4. At the same time, examination shows that the lung above is unaffected, and that it descends during deep inspiration. Beneath the clavicle, there is vesicular respiratory murmur; and the vocal fremitus reaches as far down as the fourth or fifth rib. On deeper inspiration, however, the normal respiratory murmur is heard as low down as the fourth or fifth rib; while at the same time all respiratory sound is sharply cut off below this limit. 5. The dulness on percussion, corresponding to the exudation, is rapidly

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and distinctly altered by changes in the position of the body; but the change is limited to the lower part of the chest (*i. e.*, beneath the diaphragm). 6. The signs of increased pressure in the pleural cavity are either absent or very indistinct. The corresponding half of the thorax is scarcely distended, the heart is but little pushed aside. On the other hand, the liver reaches as low down as the umbilicus or even lower. 7. In the further progress of the case, any doubt that may have existed as to the diagnosis may be removed by the sudden and abundant expectoration of ichorous pus, indicating perforation into the air-passages. 8. Finally, the diagnosis may be confirmed by manometric examination of the pleura. Pfuhl had already remarked, that, in puncture combined with the use of the manometer, when the canula is in a cavity beneath the diaphragm, inspiration is attended with an increase, and expiration with a diminution of pressure; being the reverse of what occurs when the canula lies in the pleura.—*British Med. Journal*, June 12, 1880.

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Case of Basic Cavity of the Lung treated by Paracentesis.

At a late meeting of the Royal Medical and Chirurgical Society, Dr. R. Douglass Powell and Dr. R. W. Lyell contributed a paper on a case of basic cavity of the lung treated by paracentesis. The case related was that of a man aged forty-nine, of previous good health, but intemperate habits, who in December, 1878, had had bronchitis, followed in the ensuing February by pleuro-pneumonia and fetid expectoration. He improved after a time, but relapsed in July, and in August was admitted into the Middlesex Hospital under Dr. Powell's care. On admission, the physical signs showed consolidation of the lower lobe of the right lung, with excavation of its central portion, the cavity signs being centred about the level of the seventh dorsal spine in the line of the angle of the scapula. There was considerable hectic, with diarrhœa and anorexia. The breath and expectoration were extremely fetid, the latter being muco-purulent in character, and very abundant, amounting to about one pint in the twenty-four hours. The area of excavation having been carefully marked out, the operation of paracentesis was performed by Mr. Lyell on September 11. A medium-sized aspiration-trocar was first thrust in at the eighth space mid-scapular line, and a free incision having been made through the tissues down to the intercostal membrane, the fine trocar was withdrawn and a full-sized hydrocele trocar inserted, which, after slightly enlarging the opening, was in its turn removed, and a large drainage-tube introduced. Carbolized dressings were applied. A moderate quantity of secretion escaped from the wound (which gave rise to no serious bleeding), and the discharge subsequently from the tube, although free, was never abundant. The expectoration and cough, however, at once almost entirely ceased. The wound was dressed daily under the carbolic spray, with the view of disinfecting it and the cavity, and injections of Condy's solution were used. On October 2 there was some return of fetor of breath, that of the discharge from the tube having never been quite corrected. Some trouble was occasioned by the tube slipping out, its reintroduction being hindered by encroaching granulations, and the tube was felt to strike against some impediment deep in the lung. The channel was kept dilated, however, and the patient improved in strength, and on the 20th was transferred to the Brompton Hospital. Fetor of sputa returned towards the end of the month, however, although the amount expectorated continued to be very scanty. The patient lost ground rapidly, and was finally seized with pleuro-pneumonia on the opposite side, of which he died on October 31, fifty days after the operation. The post-mortem examination revealed the presence of several inter-communicating cavities in the lower lobe of the right lung. This lobe was firmly adherent throughout, and a drainage-tube, passing

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through the eighth intercostal space, entered a contracted cavity, which was connected with the main cavity by a short dilated bronchus. This small cavity must have been closely sub-pleural, and was the very lowest of the series, although at so high a level as the eighth space and it was only separated from the diaphragm by one-eighth of an inch. It was evident that in contracting upon the tube the wall of the cavity had come in contact with and partially occluded its extremity. The rest of the lobe was densely consolidated by fibroid growth surrounding bronchiectatic cavities. There was broncho-pneumonia and effusion on the left side. The rest of the lungs were emphysematous. In their remarks upon the case the authors commented upon the infrequency with which the base of the lung had been tapped, and pointed out, that the immediate cessation of cough and expectoration after operation in this case was a fact very encouraging to future interference with such cavities under more favourable circumstances, and also afforded a valuable hint respecting the importance of disinfecting lung-cavities. For it was clear from the small amount of the discharge, compared with the great previous quantity of expectoration, that the bulk of that expectoration had been yielded by the bronchi irritated by the acrid fluids and gases in their passage from the cavities. Whilst advocating the puncture of chronic basic cavities in suitable cases, the authors deprecated interference with apex cavities, on the ground of its being rarely necessary or useful, and are averse save in exceptional instances to making incisions into acute basis abscesses of the lung. In the present case, however, the operation had undoubtedly been postponed too long, the patient having come under observation too late. The diagnosis of the case from empyema was touched upon, and the several steps of the operation discussed; the use of a large trocar in preference to the knife being advocated. In future cases, too, the authors would prefer to choose the centre of the cavity, rather than its lowest point for puncture, where it is situated in the posterior lobe of the lung.

Dr. Symes Thompson thought the operation advantageous in selected cases, but it did not suit where the disease was acute or where the pleura was not adherent. When the inflammation was of a gangrenous character, or where the patient's health was very bad, it might be performed, but not, he thought, until recovery by any other procedure was nearly hopeless. There would always be great difficulties as to diagnosis, for to be successful the putrid cavity must be near the surface, and these cases are not very numerous nor easy to make out.

Dr. Barlow said that no treatment of suppurating cavities could be satisfactory without good drainage. In the case narrated the opening was sinuous, and hence the drainage could not be very good. He would make a double opening as in empyema. It was easier to get the cavity cleaned out in this way. In empyema he fixed the tube by a thread round the body.

Dr. Theodore Williams thought the operation might be useful in certain forms of bronchiectasis, but these could not easily be reached. The removal of the putrid fluid was all-important, as the other lung might be poisoned by the exhalations. In one case he tapped a limited empyema, thinking it a bronchiectasis. In most cases of phthisis, the cavities, being in the upper part of the lung, drain themselves. He referred specially to a case where the President had operated for him with very great advantage.

Dr. Reginald Thompson thought that the operation should really be considered as a means of preventing septic influences on the other lung, and should therefore be undertaken as soon as possible. There was often rapid break-down of one lung, and then the other became infiltrated by inhalation with its products.

Mr. Erichsen said that in these cases the great thing was drainage, and that antiseptics did little or no good. The patient was really poisoned by his own

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secretions. He would make a free opening and get rid of the foul material. In the case referred to by Dr. Theodore Williams the whole house was infected, and the smell could be perceived to the very door, yet when the collection of stuff was opened the whole fetor rapidly disappeared. Care should always be exercised in the selection of a tube; they should be rigid, to obviate any risk of forming an acute angle. He had found a flat trocar with a vulcanite canula the best instrument to use, but if he had to do it again, he would rather pass in a director, and then gradually tear with dressing-forceps, than cut. Injection of fluid only seemed to irritate. In Dr. Williams's case an emphysema set in all over the body, and at each cough it could be seen to increase. This air, although intensely fetid, produced no bad effects on the body.

Mr. HOLMES, with regard to the last point, mentioned a case of emphysema connected with the rectum, but neither here was there any damage to the tissue from the foul air.

Dr. POWELS, in reply, said there was a difficulty as to the time of the formation of the various cavities; perhaps one formed first, and the others were secondary. He did not favour the idea of a double opening. Only a small quantity of fluid was removed, yet the expectoration ceased at once, perhaps owing to cessation of the irritation to the bronchi.

Mr. LYELL said that in another case he would prefer a metal tube.—*Med. Times and Gazette*, June 19, 1880.

Treatment of Dextral Valvular Disease of the Heart.

Dr. ALEXANDER MORISON, in a graduation thesis on disease of the valves of the right side of the heart, thus sums up his therapeutic conclusions (*Edinburgh Medical Journal*, March, 1880). 1. A more or less orthopnœic position is best suited to many cases of organic valvular disease of the dextral valves; but there are exceptions to this rule, and the latter will probably most frequently be constituted by cases of pulmonary valvular lesion, and especially by cases of pure pulmonary regurgitation, just as we find a recumbent position best adapted to the analogous instances of aortic regurgitation. 2. The cutaneous circulation must be maintained by adequate warmth, and arterialization of the blood by as free a ventilation as is compatible with the maintenance of sufficient heat. 3. Food must be given to patients from dextral disease under the same restrictions as in the case of other cardiac sufferers, but fibrinogenous material must be even less consumed than in other cases, from the greater liability to spontaneous coagulation, and alcohol in one form or another is absolutely necessary, but must be cautiously administered. 4. Venesection is calculated to render signally good service in the retrograde plethora due to dextral valve lesions. 5. External applications must be employed in such cases under the same circumstances as in other forms of cardiac disease. 6. The use of ammonia, from properties peculiar to it, is indicated, but asphyxial conditions may render its combination with chlorate of potash or some other oxygenator advisable. 7. The employment of digitalis is not only useless in cases of organic disease of the dextral valves, but fraught with a danger which cannot be exaggerated, and the chief cause of its pernicious influence is probably its systolic action upon the left ventricle. 8. In functional valvular disease of the right heart, arising from ventricular dilatation, and especially in functional tricuspid regurgitation, digitalis carefully administered may prove very beneficial, by diminishing the capacity of the ventricle, and restoring or improving the competency of valvular action.—*Lond. Med. Record*, June 15, 1880.

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Salicylate of Sodium in Acute Rheumatism.

A. DIERSTERWEG (*Deutsche Med. Wochenschrift*, No. 43, 1879, and *Centralblatt für die Med. Wissen.*, January, 1880) reports one hundred cases treated with this remedy. Of these, the disease was cut short in thirty-six in twenty-four hours, in eighty-five in forty-eight hours, in ninety-eight in seventy-two hours, in one in eighty-four hours, and one, a girl, aged 20, was uninfluenced. The amount of medicine taken was in forty-six cases 5 to 15 grammes (77 to 231 grains); in forty-one cases, 20 to 28 grammes (308 to 432 grains); and in twelve cases, 30 to 40 grammes (463 to 616 grains). In three of the cases cut short (all females) suppurative arthritis followed in the ankle, which was cured by incision and drainage. Relapses occurred during the use of the medicine in eleven cases, four in the first week and four in the second. Cardiac complications occurred only five times (and of these three had had heart disease before) in one hundred cases and twenty relapses. Pleuritis occurred three times. In one of these cases the patient had pericarditis on admission to the hospital. Beyond this, the course of the complications under treatment by salicylic acid was favourable.—*London Med. Record*, June 15, 1880.

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Occlusion of the Coronary Arteries.

The arrest of the blood-supply to the walls of the heart, in consequence of disease in the coronary arteries, is a well-known pathological factor in certain morbid states of the heart's walls. The effect of such arrest has been studied experimentally by several investigators, who found that it caused rapid enfeeblement of the heart's action. Lately the subject has been reinvestigated by GRUNHAGEN and SAMUELSON, who have ascertained new facts. By keeping rabbits under the influence of curara and artificial respiration, they were able to compress the coronary arteries by means of forceps, and to do this repeatedly, so as to observe the comparative effect of arrest and renewal of the flow of blood. The compression caused at once a retardation of the rhythmical action of the heart, especially of the left ventricle, while the contractions of the right ventricle were at first more rapid, and then were also slowly retarded. The slowing of the action increases the longer the compression lasts, or after several repetitions, until finally the contractions cease, first of the left, and later of the right ventricle. A second effect of the compression is weakening of the heart's contractions. This was also observed and estimated by the manometer by Bezold, and it was corroborated by Samuelson with a galvanoscopic frog. As soon as the heart became pale and the contractions were less frequent, these were no longer sufficiently powerful to excite the sciatic nerve of the frog, but after the current of blood was renewed, the nerve again responded. This experiment was repeated several times in the same animal. A third fact noted was that the compression of the left coronary artery caused a gradual swelling of the left auricle, which was distended until it appeared like a bright-red, shining bladder, its rhythmical contraction lessening to an oscillating movement, which finally ceased. This phenomenon was observed when the left ventricle was weakened, and its action retarded, while the right auricle and ventricle continued to contract strongly. As soon as the compression was stopped, and the left ventricle began again to contract, the distended auricle emptied itself in one to two minutes, and both series of the heart were again in uniform action. This phenomenon constitutes a striking illustration of the mechanism by which obstruction at the mitral orifice or weakness of the left ventricle leads to auricular dilatation, and to œdema of the lungs.—*Lancet*, June 19, 1880.

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Peritonitis Appendicularis.

In an essay, of which a summary is given in the *Nordiskt Medicinskt Arkiv*, Band xii., Häft 1, Dr. WITH describes, under the name of peritonitis appendicularis, the form of peritonitis produced by ulceration and perforation of the vermiform appendix.

It is well know that the vermiform process is often the seat of catarrh and ulceration, frequently produced by abnormal contents, hard fecal masses, or foreign bodies. In like manner, the pathological conditions thereby caused are recognized as adhesive peritonitis when the ulceration approaches the surface of the bowel, or ulceration through the bowel with local or general peritonitis; an abscess may also be formed about the bowel, and may burst in various directions. Little attention is paid clinically to the affections of this portion of the intestines, and they are most frequently grouped under the comprehensive title of "perityphlitis," which has gradually come to include all inflammations of the right iliac fossa. While the most severe cases, in which there are suddenly developed signs of general peritonitis proceeding from the appendix vermiformis, are most frequently correctly diagnosed and treated, those cases which run a more chronic course, attended with tenderness and swelling in the right iliac fossa, are, according to Dr. With, not treated yet with sufficient care, inasmuch as purgatives are administered early, although the proper object is to overcome the peristaltic action as much as possible, and allow time for adhesive peritonitis to take place.

In many cases, ulceration in the appendix vermiformis is indicated by severe pain in the abdomen, especially low down and to the right. The cases are generally supposed to be ordinary colic, and recovery takes place after a few days' confinement to bed and expectant treatment. In support of his assertions, the author refers to necropsies. Toft found, in 300 *post-mortem* examinations, the appendix vermiformis sound in only 190, and more or less diseased in 110. Dr. With himself has seen a few cases of general peritonitis following perforation of the vermiform appendix, the diagnosis being confirmed by necropsy. He relates the histories of ten cases of this kind, which in their essential features present a great resemblance. Young powerful individuals are attacked without any previous indisposition, with violent pains in the abdomen, generally most severe on the right side, nausea, eructation, and vomiting; the vomited matters being at once or soon afterwards of a green colour. There is high fever; the abdomen is tender and distended, and often becomes hard, and the distension most frequently continues to increase. The pain and tenderness sometimes diminish, but may continue increasing in severity to the last. The vomiting generally continues. For a day before death, there is sometimes a certain amount of *euphoria*, with mild delirium; there is usually constipation. In only three of the cases was the illness preceded by indisposition of from one to fourteen days' duration; in the remainder it set in suddenly. The starting point of the pain could not always be determined with certainty; at one time it seemed to start from the cardia, at another from the umbilicus or the left hypogastrium, but most frequently it was traceable to the right iliac fossa. In nearly all the cases, enemata and purgatives were given either at the beginning, or in the course of the illness.

In contrast with these, the author relates six cases, which altogether resembled the preceding in their origin and symptoms, but were treated throughout with large doses of opium; of these four recovered, and two ended fatally. In one of these cases, during a violent fit of laughter, there was a sudden aggravation of the symptoms, with nausea, vomiting, hiccough, etc.; after death, an abscess was found between the cæcum and the right abdominal wall, communicating

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with an ulcer which had perforated the vermiform appendix. In the other fatal case, an enema had been given before the patient was admitted into the hospital. The necropsy revealed general peritonitis, and a perforation of the appendix as large as a pea.

In a third class are placed eight cases, in which perforation was followed by local peritonitis of a less severe character; the patients all recovered. In one of these cases the author found on the death of the patient, three and a half years afterwards, that the local peritonitis could be traced to the vermiform appendix.

Finally, in a fourth series are related five cases, in which convalescence was protracted, either in consequence of increased peristaltic action of the bowels, produced by enemata or purgatives, or because the patient sat up too soon.

In order to establish his position, that the greatest part of the affections which have been named perityphlitis, phlegmon, or abscess of the iliac fossa, are various degrees of the above-described disease, the author proposes to call it "peritonitis appendicularis," a name which denotes both the nature and the source of the disease. It may be divided into three forms. 1. In the adhesive form, the ulceration of the appendix vermiformis penetrates so deeply that the investing peritoneum is involved and perforated. 2. Local peritonitis appendicularis is characterized by local peritonitis and primary intraperitoneal abscess. 3. Under the title universal peritonitis appendicularis are included the cases in which general peritonitis is the result. In their clinical aspect these forms of the disease may differ considerably from one another, and the author therefore gives a sketch of the symptoms, diagnosis, prognosis, and treatment of each of them.

1. *Peritonitis Appendicularis Universalis.*—The patients have often had earlier attacks, which may be regarded as stages of the same disease which have not been further developed; in a few cases, there is indisposition for a few days before the perforation; but in most this takes place suddenly. Dr. With has collected fourteen cases of this form, of which twelve ended fatally and two recovered. In six of the cases, the illness began with local peritonitis which afterwards became general; the duration of the local stage varied from four to fourteen days, that of the universal stage from two to six days. In all the cases, the pain was greatly increased when the peritonitis became universal; there was vomiting in all the cases, except one in which the perforation occurred during typhoid fever; it was usually accompanied with eructation or hiccough. In all the cases, the abdomen becomes very tender and distended, when universal peritonitis sets in; sometimes there is observed painful or difficult micturition, or complete retention of urine. There is considerable fever. The temperature is most frequently a little over 102 deg. Fahr., but may rise to nearly 106 deg. The pulse varies from 90 to 140, and towards the end becomes rapid and small. There is much thirst, and the tongue is inclined to be dry. The patient's general condition is much affected; general prostration may occur very rapidly. Consciousness may be retained nearly until death; in other cases there is delirium, accompanied, however, with a feeling of being in health. The disease may be confounded with various forms of colic (lead-colic, colic from gall-stones, etc.), with ileus, with puerperal peritonitis, etc.; but it can most frequently be distinguished with certainty from these diseases. The diagnosis between peritonitis appendicularis and the other forms of peritonitis from perforation is very difficult; but in all such cases the first indication of treatment is to immobilize the intestinal canal by means of opium.

2. *Peritonitis Appendicularis Localis.*—This condition was observed in six cases in which the peritonitis afterwards became general; and in sixteen which recovered. The symptoms are: considerable pain, coming on suddenly, in the abdomen, low down and to the right; vomitings coloured with bile; much ten-

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derness with some distension and resistance in the right iliac fossa, where, when the tenderness allows an examination to be made, there is found more or less swelling; with a tendency to constipation. In many cases, the patients have at an earlier date had similar symptoms of short duration in the abdomen, with pain, vomiting, and disposition to diarrhœa or constipation; some have also suffered from colicky pains and tendency to diarrhœa just before the attack. The pain in local peritonitis appendicularis may vary much in intensity; in some it prevents sleep, although the patients can lie quiet; others bend and twist themselves and draw their legs up; others cannot move from the position on the back which they have assumed; the right leg especially is often drawn up. The pain is continuous, and is increased by pressure, coughing, and deep inspiration. Vomiting occurs in by far the greater number of cases, but, with the pain, is most frequently soon subdued by the use of opium; the condition of the abdomen in the milder cases is natural, except in the right iliac fossa. In the more severe cases, the whole abdomen is somewhat distended, but the tenderness and distension are always greatest in the right iliac fossa. The swelling or fulness may vary in form and size, and may yield a dull or hollow tympanitic percussion-sound. There is generally fever; the temperature varies from 100.4 to 104 deg. Fahr.; the pulse from 84 to 100. During the stay in hospital, the spontaneous pain and the vomiting disappeared within the first few days under the use of opium; the tenderness and distension in the right iliac fossa lasted two weeks, and the duration of the constipation varied from four to twenty days. The diagnosis is most often easy; but, when there is severe pain in the upper part of the right side of the abdomen, the case may be mistaken for one of gall-stone colic; a consideration of the whole symptoms, however, will soon correct the diagnosis. The disease is most frequent in men; when it occurs in women, exploration will aid in distinguishing it from parametritis and other affections proceeding from the genital organs. Simple typhlitis is most frequently stercoral, and is developed gradually, with flatulence, constipation, and the formation of a painless and frequently nodulated swelling in the cœcal region. Dr. With regards the existence of a primary perityphlitis as very doubtful; the group of symptoms generally attributed to this disease belong in reality to local peritonitis appendicularis.

3. *Peritonitis Appendicularis Adhæsiva.*—This affection is difficult to recognize, on account of its various and uncertain symptoms. In five of the thirty cases recorded by Dr. With, the patients had at earlier periods suffered from symptoms which, viewed in the light of the latter course of the disease, may be assumed to have had their origin in ulceration of the vermiform appendix with commencing adhesive peritonitis. These symptoms consist of slight abdominal pain lasting about twelve hours, sometimes accompanied with pain in the cœcal region, nausea, and a single attack of vomiting. There may be alternate diarrhœa and constipation, with colicky pains, flatulence, and a painful feeling of distension in the abdomen; the symptoms may sometimes be so severe as to oblige the patient to remain in bed for two days. In some cases, on single days, even to within three weeks before the perforation has taken place, the patients have felt ill, have had nausea, etc. Most frequently, the pain in this form of peritonitis appendicularis is more severe than in ordinary intestinal catarrh; and by considering the *ensemble* of the various symptoms a probable diagnosis may often be arrived at.

The author warns against giving purgatives in all forms of the disease; even when there has been constipation for a long time, he gives opium to subdue the peristaltic action. In the milder cases he gives from 5 to 8 drops of vinum thebaicum, in the more severe cases 10 drops, three times daily; and besides this, according to the severity of the case, 15 drops in the evening or an injection of

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15 milligrammes (3-5th grain) of morphia. A warm cloth is laid on the abdomen, as this seems to favour adhesion more than ice-bladders. The patients are put on low diet, and are only allowed fluids; a little milk with ice, and afterwards tea and water-gruel. Rest, and the avoidance of all unnecessary speaking, are enjoined; as few visits as possible are made, and the patient is carefully examined without making strong pressure on the abdomen. In the milder cases, the pain disappears in the course of a few days, the vomiting ceases, and the tenderness and distension disappear in five or six days. After about ten days the opium is discontinued, and the bowels are generally opened spontaneously a few days later.

When the local peritonitis has been more severe, the tenderness, fulness, and swelling continue some time after the pain has ceased. Opium is then given until all the local symptoms have disappeared—as a rule, about fourteen days. In general, the bowels will be open a few days after the opium has been discontinued; if not, an enema is used, especially if there be any distress. The author has allowed patients to remain with their bowels unopened for twenty-four days.

When a spontaneous evacuation of the bowels takes place at a time when there is reason to fear that sufficient adhesions have not yet been formed, the dose of opium is increased to ten drops of vinum thebaicum three times daily. When a spontaneous evacuation has taken place, and is not repeated within a few days, an enema is used, and afterwards small doses of castor oil. The stools are generally scanty and hard at first, but sometimes abundant and natural. The general health does not suffer at all from the long constipation, but recovery proceeds quickly, steadily, and without disturbance. The patients become free from pain, feel themselves better daily, and have appetite, long before the bowels are opened. After the bowels have been opened twice, the patients are allowed to have fish, and two days later fricassee; and in a few days they are discharged cured. Leeches may be useful to subdue the tenderness, both at the beginning of the illness and afterwards; when the distension continues rather long, blisters or the moxa may be used.

In general peritonitis, also, opium is the chief remedy, and is given in doses of from 10 to 20 drops of vinum thebaicum every half hour or hour, with repeated injections of morphia; other remedies are of subordinate importance. Adhesive peritonitis appendicularis may be treated by rest, warm applications, low diet, and doses of from 5 to 13 drops of vinum thebaicum three times a day.—*Lond. Med. Record*, June 15, 1880.

Rupture of Hydatid Cysts of the Liver.

In a paper read at the Académie de Médecine (*Gaz. Heb.*, May 28), Dr. FEREOL observed that this occurrence is by no means so necessarily fatal as it was not long since supposed to be. The present state of our knowledge seems to justify the following conclusions: 1. Preliminary suppuration gives rise, in the case of rupture, to a rapidly fatal peritonitis, except, perhaps, when the peritoneum has become partitioned by adhesions which limit the inflammation. 2. The penetration of a limpid and fresh liquid into the peritoneum, which in some cases seems inoffensive, in others has been followed by rapidly fatal accidents, without our being able to state with precision the reasons of these differences. 3. The presence of living hydatids in the peritoneum is less dangerous than that of dead hydatids; in the former a spontaneous cure is possible. 4. In cases in which the accidents that follow the rupture are not severe, or become moderated, and yet ascites is produced, we should interfere when this ascites has not a tendency to become absorbed. Simple puncture may suffice to produce a cure, but when this fails we should as soon as possible evacuate the foreign bodies

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contained in the peritoneum. This may be done by washing out the peritoneum twice a day by means of a large trocar and canula with a wide lateral opening and Fauchet's siphon-tube. Dr. Féréol believes that the same practice may be adopted in some cases of limited peritonitis.—*Med. Times and Gazette*, June 12, 1880.

Surgery.

Gunshot Wound of the Base of the Brain, followed by Recovery.

Dr. DIEZ reports a remarkable case (*El Siglo Medico*, No. 1376) of recovery after a gunshot wound, presumably of the base of the brain. The patient was aged nine years, and was accidentally wounded by a revolver bullet, nine millimetres (0.35 inch) in diameter. The projectile was discharged at the distance of a few feet only, and passed through the right temporal fossa at a point corresponding to the centre of the zygomatic arch, between the external angle of the orbit and the tragus of the ear, lodging at a corresponding point, but six millimetres higher, on the left side of the head. Among the symptoms noticed were partial loss of consciousness, recovered, however, within an hour, considerable epistaxis, exophthalmos, with complete loss of vision in the right and photophobia in the left eye. Slight cephalalgia, confined to the anterior portion of the head, was present; and a dull buzzing sound, heard subjectively, followed the least movement. Hemiplegia was well marked on the right side of the body. The ball was extracted, and almost immediately the photophobia in the left eye disappeared. The treatment consisted in water-dressing and rest; and recovery was rapid and complete. Suppuration commenced sixty hours after the injury; the exophthalmos disappeared on the seventh, and the hemiplegia on the third day. Recovery was complete on the twenty-fourth, sight having been perfectly restored, and no apparent ill effects remaining. The author asks what could have been the actual lesion in this case, and considers that the anterior lobes and optic nerve can hardly have escaped direct injury. [It seems most reasonable to suppose that the ball did not describe a straight course within the cranium, although the wound of exit was immediately opposite that of entrance. Such cases are not rare in military surgery.]—*London Med. Record*, June 15, 1880.

Rupture of the Middle Meningeal Artery.

In the numbers of the *Revue Mensuelle* for March and April is a memoir by M. GÉRARD MARCHANT, of Paris, on ruptures of the middle meningeal artery, especially in association with simple fractures of the lateral portions of the cranium. One instance of this lesion was observed by the author in 1875, and a second three years later. He has since paid much attention to this subject, and has collected, partly from the *bulletins* of the Anatomical Society of Paris, partly from unpublished records of hospital colleagues, thirty cases of simple fracture of the skull complicated with rupture of the middle meningeal artery. In his memoir, M. Marchant discusses the symptoms and treatment of this form of injury, and gives also the results of some anatomical and experimental investigations. The signs through which the surgeon is enabled to diagnose the complication are of two kinds, local and general. The previous history of a suspected case of this kind is always of some importance, particularly if there be any evidence of a direct injury to the affected region of the skull. Chief among the local signs are diffused œdema of the temporo-parietal region, pain very intense at one point on

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pressure, and ecchymosis, appearing some hours after the accident, sometimes in the mastoid region, sometimes in the inferior facial region near the zygoma. Occasionally there is dilatation of the pupil on the same side as the effusion. Of the general symptoms, marked stertor is the most constant. The patient is usually comatose, and presents the phenomena of cerebral irritation and compression. The disturbances are, as a rule, diffused, and indications of muscular contracture, relaxation, and resolution appear in different cases in a variable order.

It is only when they are presented in association that these symptoms are of value in establishing the diagnosis of ruptured meningeal artery in cases of injury, without external wound, to the side of the head. Ecchymosis over the zygoma and at the lower portion of the temple, is a symptom also of fracture in the mastoid region; stertor, when an isolated symptom presents no special indication, since it may be observed in any case of cerebral compression.

According to Duret, who has carefully investigated the cerebral phenomena produced through increase of pressure within the cavity of the cranium, and as may be made out on study of the thirty cases collected by M. Marchant, certain other symptoms have been frequently met with in the above complicated injury. Ocular and circulatory disturbances, derangements of digestion, trismus, disorders in the nervous and urinary systems have often been noted; but an attempt to make a methodical grouping of these disorders, as symptomatic of this or that lesion, will be found impossible. In future a surgical observer, in dealing with a fracture of the cranium and suspecting rupture of the middle meningeal artery, ought carefully to note the occurrence of vomiting and of motor and sensory disturbances; he should carefully study the characters of the pulse and of respiration, and make out the condition of the pupils and the degree of sensibility of the cornea. The last is a valuable index of the degree of cerebral compression: the more the intracranial pressure is increased, the less does the cornea react when touched.

At the request of M. Marchant, an examination of twenty-five skulls was made by M. Ferè, in order to determine the relations of the cranial walls to the branches of the middle meningeal artery. This vessel is usually described as terminating in two branches, an anterior and a posterior; but, as the anterior is almost always subdivided into two trunks of almost equal importance before it reaches the superior limit of the squamous portion of the temporal bone, it follows that in each lateral portion of the cranium, and in the regions most accessible to surgical or accidental wounds, the middle meningeal artery presents three large branches. Of these, the anterior branch alone is regular in its relations to the cranial wall. Below, it is situated at a distance of between 23 and 30 millimetres from the external orbitar process of the frontal bone, and at its termination about 16 millimetres behind the point where the sagittal strikes the coronal suture. It is placed in front of the fissure of Rolando, from 20 to 25 millimetres below and about 35 millimetres above. The posterior branch of the anterior division of the artery is situated behind the fissure of Rolando, and also behind the ascending parietal fissure. The hindmost branch ascends beyond the squamous portion of the temporal bone, at a point about 83 millimetres behind the external orbitar process of the frontal bone; it then approaches the lambdoid suture, with which it possibly runs parallel, its direction being cut by a line carried directly upwards from the mastoid process.

M. Marchant recognizes the fact that, in a case of intracranial hemorrhage, the effused blood may be derived from some other source than the middle meningeal artery. The bleeding may come from the proper vessels of the diploë, from the vessels running between the bone and the dura mater, from the sinus of the dura mater, or from some large vascular trunk at the base of the cranium, as the

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internal carotid or the internal jugular, or, again, from some of the numerous vessels that surround the encephalon, and penetrate into its interior. But it has been found that intracranial effusion of blood from any other source than the middle meningeal artery is very rare. In twenty-six of thirty-one collected cases, the bleeding had been from this vessel. In the rarer forms of injury, the clinical phenomena differ from those described by the author as characteristic of rupture of the meningeal artery.

The most frequent cause of rupture of the middle meningeal artery is direct injury from a splinter of cranial bone. An injury of sufficient force applied to the side of the skull produces a fracture of both tables of the cranial bone. If the body effecting the injury be angular and strike the cranium with a small surface, it causes a form of direct comminuted fracture, in which are presented a certain number of fragments, usually triangular in form, depressed each at its summit, and continuous at the base with the cranial wall. The depression is more or less marked, and may vary in depth from a few millimetres to 3 or 4 centimetres. In this form of injury, the dura mater, which is less adherent in the lateral regions than in other portions of the cranium, will probably be stripped away from the bone; and if the injury have involved at any part the track of a large branch of the middle meningeal artery, this vessel will probably be wounded by the sharp extremity of one of the depressed fragments of bone. This view as to the most likely cause of rupture of the middle meningeal artery is supported by the fact that, in the majority of reported cases of this injury, there is a history of a fall on some projecting part or of a blow from some pointed or sharp body. The fracture associated with rupture of the meningeal artery is usually a starred one, and so indicates the frequency of direct injury in such cases. The effused blood collects between the bone and the detached dura mater, and very often, in consequence of extensive separation of this membrane, forms a large clot. A second but much less frequent cause of wound of the middle meningeal artery, is a forcible rupture through injury of the osseous ring or canal which frequently incloses the anterior division of the vessel before its ramification.

In the first variety of the injury, comminuted fracture of the lateral wall of the skull through direct violence and wounding of one of the branches of the middle meningeal artery, there will be speedy and grave symptoms of cerebral compression, due to effusion of blood between the bone and the dura mater, and over a zone corresponding to the extent of the separation of the membrane. This zone, as has been made out both by experimental and by pathological research, extends from the posterior margin of the lesser wing of the sphenoid bone to a line about one inch from the internal occipital protuberance, and in this direction is about five inches in length. From above downwards it measures rather less, commencing at a short distance below the sagittal suture, and being bounded below by a horizontal line carried from the sharp posterior margin of the lesser wing of the sphenoid, just over the superior margin of the petrous portion of the temporal bone to a point above the horizontal portion of the lateral sinus. In this form of injury temporo-parietal ecchymosis and infiltration of blood may be produced in two ways. It is most frequently the direct result of the injury, the contusion of the skull producing at the same time ecchymosis, infiltration of blood, and fracture. The effusion in such cases is usually limited in extent, and has no tendency to increase. In some instances, though very rarely, the ecchymosis is due to the filtration of blood between the fragments of bone, and through the lacerated epicranial aponeurosis; in this variety, there is a tendency to increase in the amount of effused blood.

In the second variety of injury to the middle meningeal artery, that in which a deep canal or an osseous ring, occupied by the anterior branch of the vessel, is

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divided through indirect violence and the extension of a fracture from the vault to the base of the skull, effusion of blood, in consequence of concomitant laceration of the dura mater, takes place within this membrane, and varies much in volume in different cases. The symptoms of cerebral compression may be wanting in an instance of this kind, and it is sometimes impossible to make a diagnosis. The prognosis is usually less unfavourable than that of the first form of injury. Here either the main trunk or the anterior branch of the middle meningeal artery is the starting point of the hemorrhage.

During life the anatomical diagnosis, that is to say, the determining which branch of the meningeal artery is the source of the bleeding, rests only on probabilities. Still, observations as to the seat of the injury, the most painful point, and the region involved in the ecchymosis, associated with knowledge of the relations of the branches of the middle meningeal artery to the cranial wall, might in some cases enable the surgeon to refer the source of the effusion to the anterior or posterior branch of the vessel. The diagnosis would be much facilitated by the existence of a scalp-wound.

The anatomical diagnosis is often attended with much difficulty, even after death. The arterial rupture may vary in extent from a well-marked division of one or several branches to a scarcely appreciable puncture. In some cases there is hemorrhage *en nappe*, which apparently has its origin in the vessels passing from the dura mater to the bone.

In some cases of compound fracture of the cranium, especially in the infant, in consequence of the close adhesion of the dura mater to the bone, of the tendency of the blood to escape externally, and to form a superficial and extracranial hemorrhage, and, again, of the superficial position and clean section of the artery, surgical intervention—trephining and deligation, may present some chance of success. With the adult and aged, trephining is thought to be useless in the majority of cases. The intracranial accumulation of blood is as a rule widely diffused, and is not accessible over the whole of its surface. Moreover, it is impossible to remove so large and firm a clot as is usually formed without causing some meningo-encephalic irritation, and giving rise to septicæmic complications. This clot forms a very good hæmostatic, and frequently, if the surgeon attempt to remove it by a curette or by washing it away, he will find it necessary to deal with fresh bleeding, the starting point of which there may be some difficulty in discovering. If the origin of the hemorrhage can be made out, it is often found to be in an artery deeply seated within the cranium, and covered by a fold of dura mater. Another contra-indication is the fact that compound fracture of the side of the skull, with rupture of the meningeal artery, is almost always associated with cerebral contusion on the opposite side of the head—the so-called lesion *per contrecoup*.—*London Med. Record*, June 15, 1880.

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New Mode of Treatment of Gonorrhœal Ophthalmia.

M. Dor, of Berne, remarks (*Lyon Médical*, March 7, 1880) that since Graham Brown published, in October, 1877, his *Researches on Diphtheria*, and came to the conclusion that benzoate of soda is a very powerful disinfectant, he has not hesitated to employ that salt in all cases of purulent ophthalmia in new-born children that have come under his care, as well as in a case of diphtheritic conjunctivitis. The benzoate of soda was, however, only employed as a disinfectant, tannin being also used as a curative agent. The following case of gonorrhœal ophthalmia was thus treated. A man, aged 20, suffering from gonorrhœa, was, when first seen by the author, suffering from purulent ophthalmia of both eyes, of four days' duration. M. Dor prescribed iced-water compresses, and

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a solution of benzoate of soda (1 in 20), and solutions of tannin (1 in 10, and 1 in 100) as eye lotions, to be used every ten minutes. The next day the eyes were less painful, and in five weeks were well, the cornea being intact.—*London Med. Record*, June 15, 1880.

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Paracentesis of the Anterior Chamber of the Eye.

Dr. MENGIN (*Recueil d'Ophthalmologie*, May, 1880) argues strongly for the above treatment in all chronic abscesses and ulcers of the cornea. He considers that it gives better results than any other method, and is moreover an excellent safeguard against perforation. In phlyctenular, vesicular, and pustular keratitis, when the affection has lasted more than four or five weeks, there should, in his opinion, be no hesitation about performing paracentesis. Should one operation not be sufficient, it may be repeated at frequent intervals. In ulcerative keratitis, where pain is felt along the course of the branches of the fifth pair, he considers the operation especially indicated, as also in abscesses with hypopion. In such cases it is sufficient to puncture the centre of the affected part, without making a large section. Such a paracentesis is more especially called for in abscesses of traumatic origin, as soon as any haziness of the aqueous humor or any threatening of hypopion is noticed. As regards the objection that paracentesis may cause prolapse of the iris into the wound, the author considers it to have no force, more especially as eserine can always be used, if required, before the operation.—*London Med. Record*, June 15, 1880.

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Abortive Treatment of Furunculous Inflammation of the External Auditory Meatus.

Dr. WEBER-LIEL recommends (*Deutsche Medicinische Wochenschrift*, April 10, 1880) in boils of the external meatus, subcutaneous injections of a 5 per cent. solution of carbolic acid. Two to four drops of this are to be injected by one or more punctures, the point of the injecting syringe being inserted into the swollen part to a depth of one or two millimetres. When these injections are performed in the early stages, before formation of pus has taken place, the further development of the local inflammation is, according to the author, prevented. In quite the early stage, a single injection often suffices, followed by ear-baths of rectified spirit containing a minute quantity of corrosive sublimate. When the boil is more advanced, several injections, either at one sitting or at different times, may be required to produce local anæsthesia of the parts. The author cautions against the use of an impure solution of carbolic acid, or of a larger quantity than from two to four drops at the commencement. If this fail to produce complete anæsthesia, the injection may be repeated the same evening, with the addition of three drops of the fluid.—*London Med. Record*, June 15, 1880.

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Antiseptic Treatment of Suppuration of the Middle Ear.

Perfect disinfection of the whole wounded surface and complete closure from the air, which are the two chief conditions of an effective antiseptic dressing, seem at first sight to forbid the application of these principles to diseases of the tympanum, for it is impossible either to close the Eustachian tube hermetically, or to disinfect all the irregularities of the tympanum and mastoid thoroughly. Surgery, however, BEZOLD says, has these same conditions to deal with in the neighbourhood of the mouth and nose, around the genitals and the anus, and yet experience shows that in these parts an incomplete antiseptic dressing is of value.

Disinfection by syringing with potash permanganate and carbolic acid has been in use for a long time, and Von Troeltsch has recommended that the meatus be

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closed with charpie saturated with carbolic or salicylic acid, in order to prevent the deposit of new spores after the inflamed surface has been thoroughly cleansed.

In selecting an antiseptic for the ear it is necessary that it should not be irritating to the mucous membrane of the tympanum, and also that it should not form deposits either by itself or by chemical union with the natural secretions, as such deposits often act as mechanical irritants.

Carbolic acid, although useful in one-half to one per cent. solution for cleansing, in cases of caries or necrosis, is not well borne, according to Bezold, by the tympanic mucous membrane in uncomplicated purulent otitis media; for, from its use in such cases, the mucosa becomes more swollen and the secretion is increased.

In chronic suppuration of the tympanum, Bezold found the use of salicylic acid, especially in alcoholic solution, useful; but the same is not well borne in acute cases. Thymol acid, he says, is also non-irritating, but his experience of it was slight, and he does not speak of results.

After experimenting with all of these, however, with more or less success, Bezold has given them up since learning the virtues of boracic acid, which he considers equal to any of the other substances as an antiseptic, and it has the advantage over them of producing no reaction of the tympanic mucous membrane. Boracic acid has been long in use in Sweden as a secret remedy, under the name of aseptin, but was first brought into notice by Lister, in 1875, since which time it has been very extensively used in the clinic of Professor Nussbaum, and found to give equally good results as carbolic acid.

After first trying a saturated solution of the acid, and getting no better effect than from similar solutions of the other antiseptics, Bezold tried filling the meatus with finely pulverized boracic acid; and, as the result, he asserts that this method of treatment is so much more certain, and so much quicker than the other methods that he now uses it in every case of suppuration, either of the meatus or tympanum, and also after lesser operations, such as the removal of polypoid granulations, cauterizations, and paracentesis. With caries of the bone it is not as effectual as in the uncomplicated cases, which would be expected. He does not consider that it supplants but rather assists other methods of treatment, like the antiseptic dressing in surgery; cauterization of granulations, removal of polypi, etc., are as necessary as ever.

The meatus and tympanum are first carefully cleansed with a four per cent. solution of the acid, then dried thoroughly, and finely pulverized boracic acid blown in over the suppurating surface; the meatus is then closed with salicylic, carbolic, or boracic cotton, which should be renewed as often as it becomes moist from the discharge.

Statistics are given to show the favourable action of this treatment upon twenty-nine cases of otitis media purulenta acuta; the average duration of the otorrhœa in these was only thirteen days. Of one hundred and sixteen cases of otitis media purulenta chronica, the average duration of treatment to the cessation of all discharge was nineteen days.

The pulverized acid has the advantage of producing no reaction on the mucous membrane, of withdrawing the water from the membrane, which keeps a concentrated solution in contact with the inflamed surface, and of not forming coagulations with the secretions. In cases of otorrhœa complicated by phthisis of the lungs Bezold found that the acid had no effect upon the discharge.

Since the appearance of Bezold's paper boracic acid is highly spoken of by Bückner[1] for the conditions described in the original paper and also as a local application for eczema. The experience of the reviewer, who has used Bezold's treatment very extensively for the last year, is also extremely favourable.

[1] Archiv für Ohrenheilkunde, vol. xvi., 1, Bückner.

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In a short article by Dr. ATKINSON[1] attention is called to the use of boracic acid as a local application in diphtheria and as an internal remedy. He also quotes from Drs. Cassar Stuart and Malcolm Simpson, to show its action upon disease germs: "Pieces of membrane (diphtheritic) which had been brushed with a saturated solution of boracic acid, when placed on the warm stage of the microscope, showed the characteristic bacilli; but these were absolutely innocuous, and instead of lengthening into spore-bearing filaments, micrococci, bacterium, termo or torula appeared in their stead."—*Boston Med. and Surgical Journal*, June 24, 1880, from *Archiv für Ohrenheilkunde*, vol. xv. 1.

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Excision of the Thyroid.

M. TILLAUX lately brought before the Académie de Médecine a case in which excision of the thyroid had been successfully performed for goitre, believed to be of the "exophthalmic" form. The patient was a woman twenty-nine years of age, and the thyroid was enlarged to the size of the fœtal head at the full time. It extended from the thyroid cartilage to below the notch of the sternum, and on the left side as far as the anterior border of the trapezius. She suffered from violent palpitation of the heart, and the pulse was never less frequent than 130 to 140 per minute. There was very little prominence of the eyeballs, but she complained of dysphagia, and there were amenorrhœa and marked vaso-motor disturbances. In the operation Lister's antiseptic method was strictly observed. An oblique incision was made from above downwards, parallel to the anterior border of the sterno-mastoid, and then a horizontal incision perpendicular to the other. On reaching the thyroid, M. Tillaux endeavoured to separate the capsule, but found great difficulties in doing so, each movement of the grooved director causing a jet of blood. The capsule adhered so firmly to the thyroid that it was necessary to apply more than fifty hæmostatic forceps to restrain the hemorrhage. Relinquishing the attempt to attack the right lobe of the tumour, he made a second oblique incision parallel to the first, on the left side, and obtained thus a flap, which he raised over the chin. There were no adhesions on the side, and the thyroid body was enucleated without difficulty. The bleeding points were secured. It was noticed that when the trachea was exposed, after the removal of the mass, there was great difficulty of breathing, but as soon as the flap was replaced, and the trachea covered, the dyspnœa at once ceased. A drainage-tube was placed on the lower extremity of the wound. For four days all went well. On the fifth there was free hemorrhage from the left crico-thyroid artery, from which the suture had escaped, but it was arrested without difficulty. From the time of the operation the woman had not a single attack of suppuration; the other phenomena also disappeared, and the woman made a good recovery. M. RAYNAUD doubted whether the case was really one of Graves's disease, believing that the absence of exophthalmos must leave the diagnosis in doubt. The frequency of the pulse is, however, in favour of the view. Even as a surgical success the case is of considerable interest.—*Lancet*, June 26, 1880.

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Introduction of Tubes into the Larynx through the Mouth.

In the first number of the present year of the *Monatschrift für Ohrenheilkunde*, Dr. MACEWEN records two cases of successful dilatation of the larynx by means of tubes introduced by the aid of the mirror through the mouth. Both these cases were acute œdema of the glottis supervening upon stenosis. In a third instance, Dr. Macewen introduced the tube into the larynx before the removal of a carcinoma of the pharynx, to prevent blood from escaping into the

[1] Practitioner, April, 1880.

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larynx during the operation, and to facilitate the administration of the anæsthetic. [Dilatation of the glottis by means of tubes has been successfully practised by Schrötter, and is strongly advocated by him in preference to tracheotomy for the relief of acute œdema of the glottis.]—*Lond. Med. Record*, June 15, 1880.

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Cysts of the Vocal Bands.

In the first number for this year of the *Breslauer Aerztliche Zeitschrift*, Sommerbrodt published four cases in which cystic tumours were found on the free edge of the vocal bands, and five other cases in which most probably such cysts existed. In three of these cases the cysts were opened. They appeared as nodular or spindle-shaped thickenings of the edge of the vocal bands, of the same white tendinous colour as that of the normal band. The depression, that can be easily produced on them by touching them with a probe, serves to distinguish them from fibromata. Dr. HEINZE, to supplement these cases, records the following (*Archives of Laryngology*, vol. i. No. 1, 1880). The patient was 40 years of age; he had suffered for many years from repeated attacks of laryngeal catarrh. Latterly they had sometimes passed off, either suddenly or in a remarkably short time, so that the hoarse voice at once became deep and almost quite clear. A spindle-shaped tumour was discovered on the free edge of the left vocal band, about 1 centimetre long and ½ centimetre broad. It was of a grayish-white colour, slightly bluish at the middle, smooth, and shining. A slight depression could be produced by pressing on the middle of the swelling with a probe. On a subsequent visit the patient's voice was almost clear, and the swelling was reduced to one-half its former size. There was a distinct falling in of the edge looking towards the opposite vocal band. The cyst had evidently spontaneously ruptured; the rest of the growth, which felt quite firm under the probe, disappeared after repeated incisions, and the patient was dismissed with a normal vocal band and clear voice. In this case the walls of the cyst were firmer than in those of Sommerbrodt, where the cysts disappeared immediately after incision and emptying of the contents. Dr. Heinze thinks that the repeated loss and sudden recovery of the voice were due to the alternate filling and rupture of the cyst, and he would regard this symptom as one of the characteristic signs of the affection. Cysts in this situation do not appear to be very rare. The cases operated on amount at least to 17, those observed to many more.—*Lond. Med. Record*, June 15, 1880.

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Abdominal Surgery.

Prof. VON NUSSBAUM, is well known as a bold and fearless operator. He has already introduced many new operations—among others, nerve stretching and rectotomy—which our forefathers would hear of with something akin to incredulity. Now we find him attempting to remove the pylorus for what was diagnosed as cancer. On cutting down on it, the pylorus, however, proved to be healthy, and the tumour or induration was found to affect the liver. Nothing daunted by the mistake, Nussbaum, who was conducting his operation under the strictest antiseptic precautions, decided to incise the organ and put in a drainage-tube, in the hope that irritative softening might ensue, and so lead to its absorption. It was in an address before the Munich District Medical Society that he referred to this subject and to peritoneal surgery in general. In a manner all his own the celebrated operator contrasted the results of peritoneal wounds under the present methods of treatment with those which were formerly obtained under the older methods.

He says (*Aertzliches Intelligenz-Blatt*, January, 1880), "When nowadays we read that the peritoneum may, fearlessly and with impunity, be punctured, in-

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cised, lacerated, bruised, or burnt, provided we keep off all infectious germs, one might be inclined to think that our predecessors had lived under a gigantic error in regarding abdominal injuries as almost fatally dangerous, while in reality they have proved themselves to be quite unattended with danger, seeing that we now remove from the belly tumours weighing fifty to sixty pounds, the patients scarcely feeling ill the while, and not experiencing either elevation of temperature or even a rise in the pulse-rate." Fortunately the facts are beyond dispute, and yet the older surgeons were nowise in error, for peritoneal wounds were dangerous, and in similar surroundings are so to-day. "The difference between the old times and the present simply consists in this: that we have learnt the sources of the danger. An enemy whose strength and position are known is easily overcome."

Among the principal dangers attending this kind of injury must be reckoned, he says, the great susceptibility to the influence of cold which the peritoneum is known to possess. "This enormous, constantly moist surface, when exposed, leads to such a rapid cooling of the blood, that immediately reflex paralytic conditions of the heart, and even death, are threatened." The second source of danger is the almost unlimited power of absorption which the peritoneum possesses; and thus, any exudation into it which may have undergone unhealthy metamorphosis is liable to bring about rapid and severe septic conditions. Thirdly, peristaltic action, by means of which any exudation that gets into the peritoneal cavity, an enormous surface, is stirred up and smeared over the whole of its contents. Fourthly, movements of respiration, the rise and fall of the diaphragm and small intestine aiding the absorption. Fifthly, peritoneal wounds are dangerous because of the little spaces which everywhere exist, into which secretions may find their way and lie hidden and decompose. And, finally, there is the danger of infection through the ill-smelling intestinal gases, which especially favour sepsis; and, he continues, even if the bowel itself be not injured, gases find their way in or out. Thus it is that the pus of all abscesses forming in the neighbourhood of the intestines smell of fecal gases; and not only gases, but after concussion and its consequent paralysis, owing to the phenomena which attend it, an exosmosis of fluids may actually take place. On the whole, therefore, we see that there were good grounds for the dread which has hitherto always been felt of peritoneal injuries, whether accidental or applied by the surgeons for surgical purposes. Since, however, the causes of this great danger have come to be understood, and the means by which they may be overcome have been learnt, the indications for operation and prognosis afterwards have been greatly modified.

Professor Nussbaum then considers enterotomy and gastrotomy, and the cases in which these operations may be practised. In speaking of cases of internal strangulation, he said that "thousands now lie in their graves who have died from this distressing disease, while surgeons stood by as mere lookers-on, unable to help their patients." For although opium could relieve pain for awhile, it generally failed to cure the obstruction. And as regards laparotomy, formerly the mortality was 70 per cent., that of Littré's operation 47 per cent., that of Amussat 30 per cent., while those who did recover were, on account of their infirmity, often very miserable and quite unfit to associate in society.

Now in consequence of greater skill, and of the experience of past operations, the results are much more favourable. He thinks that a small opening, just large enough to let out feces, is all that is required at first; for often, after tension of the distended intestines has been relieved, the twist will right itself; or if the obstruction be due to invagination, the gut will slough and come away. The opening is then allowed to close; but, if a cure cannot be effected, the opening should be enlarged, and a permanent artificial anus established.

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As regards gastrotomy, he speaks most hopefully. Quoting some Vienna statistics of cancer, he mentioned that of 903 cases affecting the stomach, 542 occurred at the pylorus, and that of these about 60 per cent. offered favourable chances for operative interference. He pointed out that portions of the stomach and pieces of gut had been successfully removed in animals in many instances; and he believed that we were not only justified, but called upon, to operate when circumstances seemed to call for it.

In support of this doctrine he relates the following case:—

A man, aged fifty-six, was sent to him with what was believed to be a cancerous tumour of the pylorus, and which could be felt as a swelling of the size of an egg over the pyloric region. It was accompanied by intense pain. An indurated cicatrix on the abdominal wall led to the discovery that he had been accidentally injured with a pistol, and it was then thought that the wad might have been lodged. After watching the case for a while, it was decided to cut down upon it, and explore, being ready for any eventuality. The lesion proved to be an "inflammatory exudative process" in the liver. It was not sufficiently circumscribed to be removed; and furthermore, it seemed not to be a deposit in, but rather a part of, the liver. Professor Nussbaum, under these circumstances, put in a drainage-tube, in the hope that absorption of the indurating material might be brought about. The pain almost ceased, and the induration lessened. The patient left the hospital very much better for his operation, but not quite cured. He wrote to his doctor after some time, asking to undergo a second operation, in the hope that he would thus get quite rid of his trouble.

Nussbaum thinks that with antiseptic precautions we shall be able to extend our peritoneal operations to an almost unlimited extent. He believes we may excise the pylorus, when cancerous, with confidence of success. If this should prove to be the case, we have indeed in antiseptics (so-called) a valuable addition to surgical science. But we trust that in this, as in other arts, discretion will be regarded as the better part of valor.—*Med. Times and Gaz.*, May 22, 1880.

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Death from Division of the Obturator Artery in Herniotomy.

Two cases of death, following the operation for strangulated hernia, and in both cases due to a division of an abnormally distributed obturator artery, are recorded in the *British Medical Journal*, May 1880, p. 695. In case 1, a woman, aged 62, operated upon by Mr. COULING, in the Sussex County Hospital, there was free bleeding on dividing Gimbernat's ligament, which appeared to be easily controlled. Next day, there being bleeding from the wound, incapable of being controlled, the wound was opened up and the bleeding point searched for, but without success. The patient died on the third day. On examination, the tissues in the neighbourhood of the wound were found infiltrated with blood, and this extended beneath the peritoneum as high as the umbilicus. The hemorrhage was found to proceed from the complete division of the obturator artery, which arose from the external iliac in common with the epigastric, and crossed over the femoral sheath and along the inner margin of the crural ring. In case 2, a woman, aged 64, operated on by Mr. JOWERS, a similar position of the obturator artery was found after death, but here the artery was only partially divided, and no external hemorrhage took place, but extensive subperitoneal effusion.—*London Med. Record*, June 15, 1880.

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Treatment of Prolapsus of the Rectum in Children.

Dr. BASEVI (*Giornale Internazionale delle Scienze Mediche*, Fasc. 9) recommends the following treatment in chronic cases of this affection: He first lightly

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cauterizes the protruded portion with nitrate of silver, and subsequently reduces it, administering afterwards, with the view of checking any tendency to enteritis, an enema composed of tannic acid, alum, and ice-cold water. Should this treatment prove insufficient, the child is placed on a bed with the nates upwards, and steadied by two assistants, one of whom fixes the upper part of the body, while the other holds the knees elevated and somewhat abducted. The prolapsus having been reduced, the nates are brought together, and two strips of diachylon plaster, each about two inches wide, passed from one trochanter to the other, in as close proximity as possible to the perineum. To keep them in place, a spica bandage is applied round the lower portion of the body, while a piece of gutta-percha is added to protect the plaster from the contact of fecal matter. The apparatus may be left in position for a period of two weeks.—*London Med. Record*, June 15, 1880.

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Incontinence of Urine.

Dr. MANUAL ESTRADA (*El Medico y Cirujano Centro Americano*, No. 2) relates a case of incontinence of urine in a child, three years of age, with whom various remedies had been tried and failed. A careful examination of the external organs of generation showed that the labia minora had become united, and had sealed up completely the orifice of the vagina, leaving, however, the meatus urinarius free. The labia having been divided with a bistoury, it was then found that the hymen consisted of muscular fibres, extending in a direction from below upwards, and intercrossed. Their action would be to draw the urethra downwards, and, in this way, to exercise traction on the trigone of the bladder, with the result of causing irritation, and probably incontinence. The treatment, which was perfectly successful, consisted in dividing the parts freely, and fastening them back with sutures to prevent reapposition. The author calls attention to the necessity of examining the external organs of children carefully in all cases of incontinence of urine, where the usual remedies have failed.—*London Med. Record*, June 15, 1880.

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Removal of a Neoplasm from the Bladder.

Professor MARCACCI relates a case (*L'Imparziale*, February, 1880) in which he illuminated the interior of the bladder by magnesium light, the rays being projected into the interior of the viscus by a concave mirror. By this means he was enabled to diagnose the existence of a neoplasm, which proved, on examination, to be villous in structure. The bladder was laid open anteriorly throughout its whole extent by a suprapubic incision, the peritoneum being necessarily divided. Through this large opening, the growth was removed in fragments. At the time of writing, nine days after the operation, there had been no untoward symptoms, and the case promised most favourable.—*London Med. Record*, May 15, 1880.

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Prognosis and Treatment of Primary Syphilis.

M. MAURIAC, in *La France Médicale*, March 3, 1880, and following numbers, considers, at some length, the prognosis and treatment of the primary manifestation of syphilis. The chancre is looked upon by Mauriac as the first sign of a general constitutional disease of indefinite duration. Unfortunately, we have not yet discovered any rules which permit us to foretell, with any certainty, from the character of primary chancre, what will be the number, nature, progress, duration, etc., of the later manifestations.

The primary lesion when extensively ulcerated or phagedenic, may, to a certain extent, lead us to expect a grave form of early outbreak of the constitutional

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disease; but it does not give us any exact information as regards the prognosis of the later periods, nor as to whether visceral lesions are likely to occur or not. With respect to the prevention of general syphilis by excision of the initial lesion, the experiments of Auspitz, Unna, and Kölliker, are referred to; and the author states that M. Paqvalin, of Abo, Finland, informed him that he had cut out infected chancres in eighteen cases, in one in which he had also removed the inguinal glands. The chancres were of one or two weeks' duration. In no case were general symptoms prevented. M. Paqvalin also had under observation two men who had had intercourse with the same syphilitic woman. One of the two men got the skin of the penis chafed during coitus. The excoriated spot was excised at the end of eight days. No syphilis appeared. The other man had an infecting chancre at the end of thirty days. M. Mauriac thinks that, although the practice of excision has not yet given proof of being of incontestable value, it should not, therefore, be neglected. However, that this abortive method may be placed beyond criticism, several conditions, rarely found in the same person, are necessary. First, one ought to be sure of the diagnosis. But, asks Mauriac, is this possible during the first few days of the sore, and before adenopathy has appeared? And if the glandular enlargement were already present, would it not be too late to prevent general syphilis?—*Lond. Med. Record*, June 15, 1880.

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Traumatic Lesions in Syphilis.

Dr. FOLINEA (*Giornale Internaz. delle Scienze Mediche*) discusses the various ways in which syphilis may affect wounds, adducing cases in support of each of his propositions. He finds he can class all the influences of syphilis on wounds under one of the following heads, viz.: 1. Syphilitic manifestations on the wounded part. 2. At a distance. 3. Constitutional after a wound. 4. Occupying the site of a wound, itself due to syphilitic contagion.—*London Med. Record*, June 15, 1880.

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Treatment of Syphilitic Ulceration by Pyrogallic Acid.

M. VIDAL made his first experiments with pyrogallic acid (*Bulletin Général de Thérapeutique*, February 29, 1880) in psoriasis in June, 1878, and has since employed it with success in the treatment of venereal ulcers. A man was inoculated with the matter of his soft chancre at two places on the abdomen. Phagedæna attacked the punctures, as well as the original sore. The sore on the penis became as large as a franc, that of the right side of the abdomen increased to the size of a five-franc piece, and that of the left side of the abdomen to the size of a two-franc piece. Under repeated cauterization with sulphate of copper the ulcers improved for a time, but again relapsed. At the end of a month, M. Vidal made use of an ointment composed of one part of pyrogallic acid to five parts of vaseline. Three applications were made during three successive days. The pain was moderate, and only lasted from eight to ten minutes. The sores then decidedly improved, and after three more applications healing rapidly took place. Subsequently, M. Vidal used the same ointment for ordinary chancres, and in two cases rapid and complete cure followed the third application. Once the pure acid was applied, but was no more effective, perhaps even less so, than the ointment. In one case, auto-inoculation on the third day, after a third application of the ointment, gave a negative result.—*London Med. Record*, June 15, 1880.

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Simple Chancre and Chancrous Adenitis.

M. Horteloup (*Annales de Dermatologie et de Syphilographie*, Jan. 1880, p. 54) begins his paper with the remark that the soft chancre shows, of all venereal diseases, the greatest variation as regards the frequency of its occurrence. Thus, about 1865, there were admitted at the Hôpital du Midi, three simple chancres to two syphilitic ones. During the siege of Paris, the Commune, and the following year, there was a considerable increase in the number of simple chancres; but in 1873, and especially in 1874, a change took place, and simple chancre became almost an exception. At the end of 1878, however, an increase again occurred, which was kept up during 1879. M. Mauriac has dealt with this subject in a memoir, entitled, *De la Rareté Actuelle du Chancre Simple.* M. Horteloup then proceeds to formulate the two following conclusions with regard to chancrous adenitis, and states that he hopes hereafter to fully establish their truth by more extended observation. 1. *An adenitis produced by the transport of chancrous pus to the gland may present all the characters of a simple inflammatory adenitis.* In such cases, the aspect of the wound is so variable that inoculation alone can remove the uncertainty. The author has met with cases where everything indicated simple adenitis, and yet inoculation gave a positive result, as in the following case. On June 14th, 1879, a man, aged 22, was admitted to the Hôpital du Midi with two simple chancres of fifteen days' duration. In the left groin was a red non-fluctuating swelling. Three days later, deep fluctuation could be made out, and an incision was made. The rapid course of the bubo, and the aspect of the chancres suggested a virulent adenitis. The pus of the bubo was inoculated on the patient's flank the day after incision. In forty-eight hours a characteristic pustule appeared at the site of the puncture, and progressed regularly for eight days, when it was destroyed by cauterization. It was thus certain that the bubo was a chancrous one. It had, however, none of the usual characters of the virulent bubo; the edges of the incision did not ulcerate, or become irregular or separate; the floor of the wound granulated healthily, and healing was complete by the twenty-fifth day. Judging from this and other similar observations, the author thinks that it is impossible to be sure of the nature of adenitis in the absence of inoculation. 2. *Chancrous pus conveyed to the glands may there undergo an incubation of several months without manifesting its presence.* The following case, in Horteloup's opinion, proves beyond doubt that the period of incubation of chancrous adenitis may be very long. E. V., aged 26, was admitted on March 12th, 1879, with suppurating adenitis of the left groin. He had contracted a subpreputial chancre at the beginning of Feb. 1879, and had been treated as an out-patient at the Midi. On admission, the chancre was healing, the bubo was incised, and healed rather quickly, without showing any virulent character. On April 15th the patient went out, having no trace of his chancre and no swelling of the inguinal glands. In the middle of July he felt pain in the groin, and returned to consult Horteloup, who could find no swelling of the inguinal glands. No lesion of the penis or anus could be discovered, and the man, who had examined himself with great care, affirmed that he had had nothing since the chancre in the preceding March. In spite of palliative treatment, the patient continued to suffer, and, at the end of August, some puffiness about the glands in both groins could be made out. On November 19th, the patient was readmitted with two violet-red fluctuating buboes. Both were incised, a drainage-tube being inserted into the right one. The day after incision, inoculation was practised with success. Moreover the man accidentally inoculated himself on the forehead. The left bubo became phagedenic. Here was a man, says M. Horteloup, who suffered from double

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virulent buboes, the origin of which must be referred to a chancre which had been healed for three months. The author finds it difficult to believe that the patient could have had another chancre which had escaped observation, for the man was very nervous, and had carefully and frequently examined himself. Besides, M. Horteloup had not lost sight of him since the pain came on in July, so that a sore would not have been likely to escape notice.—*London Med. Record*, June 15, 1880.

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Sebaceous Cysts in the Sole of the Foot.

Surgeon-Major CAMERON observes (*Indian Med. Gaz.*, May, 1880) that it is generally stated that sebaceous glands are absent from the palm of the hand and sole of the foot. In 1875 a police-constable in good health was sent into the hospital on account of an intractable ulcer at the side of the foot, measuring three quarters of an inch in diameter. Its margins, composed of the tissues of the skin, were raw, red, smooth, and healthy-looking. Its base was covered with a brownish-coloured, inert-looking membrane, which, when unfolded by means of a probe, was found to be comparatively insensitive and to present a smooth, glistening, secreting surface on the side towards the exterior. It was removed by avulsion, and the ulcer, which had hitherto resisted treatment, healed quickly. The portion of the membrane removed had the characters of a cyst of a vein, and consisted only of a portion of the original cyst—the external portion having been lost by ulceration. It was dense and thick, and, having a free outlet, it contained no mass of fatty, pultaceous secretion, but felt and looked greasy. The history was of a small painless swelling on the sole, of its gradual enlargement, its becoming painful and bursting, and finally the formation of the ulcer. In 1877 a strong and healthy man came with a dense resisting cyst, the size of a marble, placed under the skin of the plantar surface of the fifth metatarsal bone, the skin over it being red, painful, and adherent. It was obvious that this was an earlier stage of the affection mentioned above, and this was proved by incision and avulsion of the cyst. It was an ordinary enlarged sebaceous cyst, containing fatty, pultaceous matter.—*Med. Times and Gazette*, June 12, 1880.

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Puncture and Incision in Joint-Diseases.

Dr. TIMOTHÉE PIÉCHAUD, in a recently published thesis, shows that the surgical treatment of the joints had to contend with unceasing opposition before it was received into general practice. In the last century, M. J. L. Petit laid down in the clearest way, in the special case of purulent arthritis, the rules which at present form the basis of the new method, viz., to open early, to make large openings communicating one with the other, and to give preference to injections. In M. Boyer's opinion, purulent arthritis, hydrarthrosis, foreign bodies in the joint, and chronic arthritis are more or less amenable to incision or puncture. Before going deeply into his subject, M. Piéchaud recalls to mind the disorders brought on by suppuration in wounds of joints, detachment of the periosteum, destruction of the cartilages, necrosis, hectic, purulent infection, and phlebitis. Arthritis, which is sought for by conservative surgery, has none of these dreaded consequences; but ankylosis in its various forms is always very troublesome. The author insists on the necessity of a thorough acquaintance with the technical details of Lister's dressing before meddling with special surgical treatment. M. Piéchaud does not touch on simple puncture, as it has been practised up to the present for hydrarthrosis: but traumatic effusions of blood, Schede's operation or antiseptic puncture, purulent arthritis, obstinate and chronic hydrarthrosis, foreign bodies in the joints, irreducible luxations, and white swelling, all affections to

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which arthrotomy is applicable, are treated in different articles in M. Piéchaud's work. Up to the time of Jarjavay in 1866, no one in France dared to use the trocar or lancet in effusion into a joint, distended by blood after a wound. At the present time, puncture is recognized as harmless in sanguineous effusions. A rough puncture or two, at the utmost, suffices, and should be made as soon as possible; for, after four days, clots may prevent the escape of the fluid, and in this case M. Labbé does not hesitate to use the lancet. The sometimes extremely severe pains are immediately calmed by the operation. The patient is cured in less than a month; whilst, if expectant treatment be relied on, the blood is not absorbed at the end of six months, or even longer. It is necessary for Schede's method that every effusion of which the tendency is doubtful, and which seems likely to be of long duration, should be immediately treated by puncture, followed by injection of a 3 or even 5 per cent. solution of carbolic acid. Carbolic acid does not seem to have any specific action, and may be advantageously replaced by iodine in certain obstinate cases. Complete evacuation is especially important; and washing out should be continued until the liquid returns perfectly clear. Puncture clears only recent hydrarthrosis without lesions of the deep tissues. In relapsing, obstinate, or essentially chronic cases, Lister and his disciples use large antiseptic incisions. When incision is used in arthritic effusion, the result is rapid cure, complete absence of relapse, and preservation of movement. Here, M. Piéchaud follows the precepts of the new school, and inculcates the necessity for caution, whilst recording the excellent results obtained in France by MM. Lucas-Championnière, Panas, Terrier, and Pernsot. His conclusion is ambiguous, but the inference may be drawn from it that arthrotomy should be preferred to the injection of iodine, when the classic methods have been exhausted in vain. Acute suppurative arthritis, either in its simple form, or connected with osteomyelitis, either purulent pyæmic arthritis, or that consecutive on phlegmonous erysipelas; and the form consequent on wounds, blennorrhœa, or rheumatism, call for arthrotomy in various degrees, and without any hesitation. Otherwise, rupture will supervene, and there will be as a result cartilaginous or bony lesions, and fistulous passages, without reckoning all the chances of death which the patient will encounter. The majority of surgeons make large incisions; others make only an opening of a few centimetres, and place short and thick drainage-tubes in the opening. Arthrotomy is not urgent in white swelling, but it will prevent the formation of fistulous passages, and the prolonged contact with already changed joint-tissues of a notable quantity of pus, which can only keep up and increase the evil. Scooping the joint is only indicated in young subjects, for it would give rise to endless suppuration in the adult. Recently, after very large incisions, removal of the fungosities developed in the synovial membrane has been performed. In the case of foreign bodies in the joint, arthrotomy is only indicated when the pain and inconvenience are such that the patient requires it immediately; in all cases, it is superior to frequently repeated subcutaneous extraction, of which the ill-success is now thoroughly proved. Finally, in irreducible luxations, it frequently occurs that a new joint is established in time. Incision is applicable to them, but M. Piéchaud confines it to the small joints. The method of operation is as follows. The puncture, whether simple or aspiratory, is made with a trocar, from one millimetre to one millimetre and a half in diameter, the region being previously well soaped and washed with a 20 per cent. carbolized lotion. The most prominent *cul-de-sac* is chosen; in the knee, for instance, the upper internal one. It is important to avoid the cartilages and the bones, for their lesion is sometimes, according to M. Broca, the starting point of *arthritis deformans*. The after-treatment consists in closing the little wound with a layer of ricinated collodion, and in immobilizing and compressing the joint under a

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wadding bandage. In arthrotomy, M. Piéchaud is an advocate of large openings. In order to determine the best situation in large joints attacked by effusion, and the method of operation which would allow easy sutures, he has undertaken a series of very interesting experiments. Of these, perhaps the most important results are that the opening must be made outwards in the knee and the elbow, and in the shoulder backwards. When the capsule is opened, and the evacuation completed, the lesions of the deep portions are explored with the finger, dipped in carbolic acid; and when the synovial membrane still retains pus or adherent membranous fragments, the surfaces should be gently wiped with a small new carbolized sponge to remove the adherent débris. The sutures should then be made, drainage affected, and Lister's dressing carefully applied.—*London Med. Record*, June 15, 1880.

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Osteoplastic Resection of the Elbow-Joint.

Under this name, Dr. O. Völker describes in the *Deutsche Zeitschrift für Chirurgie*, Band 12, a temporary resection of the olecranon, the object of which is to make the cavity of the elbow-joint freely accessible. He first performed the operation in a case of old imperfect lateral displacement of the left elbow-joint, in a boy thirteen years old. The head of the radius projected on the radial side, and the inner condyle of the humerus on the ulnar side. The joint was almost stiff; and sensation and motion were considerably impaired in the region of the ulnar nerve. Before operating, Dr. Völker made an attempt at reduction, but without success. Two parallel incisions were made along the sides of the olecranon, and were joined below by a transverse incision at the level of the articulating surface of the radius; the bone was then sawn through. The adhesions of the ends of the joint to one another were then divided, partly by a knife, partly by a blunt instrument; and the forearm could now be replaced. Two splinters of bone lying close to the ulnar nerve, and one which had become adherent to the supratrochlear fossa, were removed; the olecranon was then brought into its normal position. The articulating surface of the head of the radius, which projected a little, required removal. The wound was treated antiseptically, and healed without any other accident than the sloughing of a small piece of skin. Four weeks after the operation, passive movements were commenced; the joint could soon be bent beyond a right angle, and almost completely extended, by the voluntary action of the patient. Pronation and supination were quite free, and the disturbances of the ulnar nerve had altogether disappeared. The result of the operation was thus perfect restoration of the form and function of the joint. Dr. Völker believes that osteoplastic resection of the elbow is indicated in cases of irreducible dislocation (recent and old), of foreign bodies introduced into the joint, of broken-off pieces of articular cartilage and other substances lying free in the joint. He says that it is most important to restore the bony union of the olcranon with the ulna. Antiseptic treatment of the wound is indispensable; and cases in which the olecranon is not certainly intact, as well as most cases of caries, are not fitted for the operation.—*British Medical Journal*, June 12, 1880.

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Section of the Femur above Trochanter for Angular Anchylosis of Hip.

At a recent meeting of the Clinical Society of London (*Lancet*, May 29, 1880) Mr. Barwell read notes of the following case: William D——, aged twelve, had, when five years old, severe hip-disease and many abscesses about the joint. After several years he got about on crutches, but the result was a thigh flexed at right angles to the pelvis, and somewhat adducted. The deformity was extreme. The altered state of parts about the neck of the bone rendered section at that

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place inadmissible; section below the trochanters was rejected because Mr. Barwell considers such operation must produce very considerable shortening, equal in amount to the distance from the centre of the head of the bone to a point below the small trochanter—viz., from two to three inches. The operation of Rhea Barton and that of Lewis Sayre—viz., the removal of a wedge of bone from about the junction of the femoral neck and shaft—appears to him as an unattainable result, since an artificial joint at this part of the body, even if it could be secured, could not be relied on to support the weight of the trunk. A review of the results obtained by these surgeons shows that of the two successful cases—one of Barton's and one of Sayre's—motion at the place of section was either never attained or soon ceased. In the case of William D—— all such intention was, therefore, discarded. Mr. Barwell endeavoured simply to secure a straight limb without further shortening than that already produced by the loss of growth which accompanied the original disease.

The operation was performed antiseptically on Oct. 30th, by making a crucial incision on the outer aspect of the great trochanter down to the bone, peeling off the periosteum all round, finding the small trochanter and the tendon of the iliopsoas muscle, passing above this latter part an armed needle, and drawing with the thread round the bone a chain-saw, with which, obliquely upward and outward, the section was made. Barely twenty drops of blood were lost. The patient was taken to bed, and a weight suspended to the foot. No suppuration followed, nor indeed any other bad symptom, the temperature being good throughout. Union of soft parts took place by first intention, except where the drainage-tube was inserted, and that channel healed as soon as the drain was withdrawn. *Result:* The boy stands upright and straight; the limb parallel with the other; the shortening is barely an inch, and that appears due to lack of growth in the bone, not to the operation. He walks almost perfectly, and without sway of the body. Mr. Barwell especially directed attention to the fact that this end was attained by an operation which, being subperiosteal, secured so rapid a union of bone that the boy was in bed only thirty-three days. The temper and the small size of surgical needles gave rise to a little difficulty in getting a thread round the bone. An instrument devised on the principle of Bellocq's sound was exhibited by Mr. Barwell, the use of which renders the operation quite easy.

Mr. HEATH said that in cases where it could be applied Mr. Adams's plan could not be improved on; but there were cases where Mr. Barwell's method was advantageous—*e. g.*, in a woman he has now under care, who has had chronic hip-disease from early childhood, and in whom it is impossible to define the neck of the femur. Division between the trochanters is better than Mr. Gant's method of section below them, owing to the tilting of the bone by the psoas muscle. When in London, Dr. Sayre showed a model of the preparation from his case, but it hardly seemed an accurate representation, so perfect was the joint. Besides, it is doubtful whether a stiff limb be not preferable to a joint in that situation.

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Treatment of Club-Foot by Excision of a Wedge-shaped Portion of Bone.

The following cases are reported by KÖNIG, in the *Centralblatt für Chirurgie*, No. 13, 1880. A lad, aged 12, had been affected for about four years with double equino-varus of paralytic origin. There was extreme contracture in each lower extremity; the extremity of each foot was considerably adducted, and there was much arching of the sole, especially in the region corresponding to the junction of the scaphoid and cuneiform bones. The toes were much depressed, in consequence rather of distortion of the metacarpus than of plantar flexion of the whole foot. The patient was unable to move about, save with extreme difficulty,

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and on the tips of the outer toes. An unsuccessful attempt having been made to relieve this deformity, by dividing the plantar aponeurosis, Prof. König performed the following operation, first on the left, and two months later on the right foot. The extremity having been rendered bloodless, an oblique incision was made along the dorsum of the foot, and then, after the tendons and soft parts had been detached from the metacarpus, and dragged aside, a wedge of bone was removed, containing the cuboid, the scaphoid, and most of the caput tali. The anterior portion of the foot could at once be restored to its normal position. The healing of the wound after this operation was retarded. in consequence of sloughing of two extensor tendons and a portion of integument. In the operation on the right foot, a straight incision about three inches and a quarter in length was made along the outer portion of the dorsum. The removed osseous wedge included large portions of the scaphoid and cuboid bones, and portions also of the cuneiform bones. The patient made a good recovery, and at the end of a few months was able, with suitable boots, to walk well.

The subject of the second case was a girl, aged 13, affected with double congenital club-foot. The normal shape of the left foot had been established through ordinary treatment, whilst the right foot remained in a condition of extreme and obstinate equino-varus. The outer margin of the dorsum was the only portion of the extremity that could be put to the ground. There were a marked prominence in the region of the cuboid bone, and a deep angular depression on the corresponding portion of the inner margin of the foot. A long incision having been made over the prominent cuboid bone, and the soft parts displaced, a wedge of bone was removed, the base being formed by the outer surface of the cuboid, and the apex by the inner portion of the scaphoid. This patient progressed favourably until the tenth day, when she died suddenly from collapse. The necrospy revealed signs of old and extensive valvular disease of the heart, recent ulcerative endocarditis, and consecutive pulmonary changes of old and recent date.

The third case was one of extreme equino-varus of the right foot of a man, aged 19. The deformity had resulted from an injury to the extremity when the patient was five years old. The affected foot presented the characters of a paralytic equino-varus. The whole of the left extremity was incompletely developed, and smaller than its fellow. The pointing of the toes in this case also was due to flexion of the anterior portion of the foot, through displacement of the scaphoid and cuboid bones. There was extreme adduction. On the outer portion of the dorsum was a marked prominence, formed by the completely luxated caput tali. Twisting of the foot was less marked than adduction and pointing of the toes. The patient walked with difficulty, and chiefly on the prominent caput tali and the fifth metatarsal bone. An incision was made along the outer portion of the dorsum, and a large wedge-shaped portion of bone removed with the chisel, including the dislocated process of the astragalus, and a large piece of the anterior process of the os calcis. The foot could now be adducted, but the pointing of the foot still persisted. It was necessary therefore to make a second incision, the foot being very broad, and to remove through this a portion of the scaphoid bone. After removal of some small projecting pieces of bone, the foot could be placed in a good position.

In some comments on these cases, Professor König concludes that excision of an osseous wedge from the dorsum of the foot is the surest and safest method with a neglected and disabled talipes, whether of the paralytic or the congenital form. Amputation in such cases would now seem to be hardly justifiable. This treatment, it is held, is safer than the method of forcible stretching, formerly practised and advocated by the author. The latter can be serviceable only in certain cases, and, when followed at once by the application of a plaster-of-Paris

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bandage, might result in gangrene of the extremity. The treatment by excision of a wedge of bone is more readily indicated, and, as is shown by the first case, may serve in rendering a badly paralyzed foot a relatively useful limb. This method is believed to be quite safe; of course Professor König states, with antiseptic precautions. In the second case death was due, not directly to the operation, but to heart-disease and consequent pulmonary changes.

The excision of the osseous wedge must be so practised on the dorsum of the foot that, in correspondence with the adduction of the anterior portion of the foot on the one hand, and with the pointing of the toes on the other, the removed portion of bone must be broader at its upper and outer portion. As a rule, the chisel should be applied so as to remove the most prominent part of the dorsum of the distorted metatarsus. In congenital talipes, the head and neck of the astragalus with the cuboid bone, and, where the foot is pointed, the scaphoid bone, have usually to be involved in the operation. In paralytic talipes, the wedge should be taken more from the anterior portion of the foot. A small wedge of bone is to be first taken from the outer portion of the metatarsus, either with a strong knife or with a chisel, and afterwards more bone from the middle of the foot. Before the foot can be well straightened, it is often necessary to chip away several small pieces of bone. The only joint which the surgeon has to avoid is that of the ankle. A longitudinal incision, carried over the most prominent portion of bone, is to be preferred, Professor König thinks, to the oblique incision. The latter affords more room, but would probably necessitate division of some of the tendons, and favour the occurrence of sloughing. If a second incision be needed, this should be made parallel to the first. The soft parts are next detached from the bones and joints, and held to one side. In a case of extreme talipes equinus it would be well to divide the tendo Achillis. Occasionally, as in the first of König's reported cases, it may be found necessary to divide also the plantar aponeurosis.—*London Med. Record*, June 15, 1880.

Midwifery and Gynæcology.

Two Cases of Extra-uterine Fœtation, with Results.

At a late meeting of the Obstetrical Society of London (*British Med. Journal*, June 26, 1880) Dr. CHARLES H. CARTER related these cases. The first patient, aged 38, was admitted as an urgent case of extra-uterine fœtation. She was in a very critical state; pulse 150. There was a tumour toward the right side as high as the umbilicus, and continuous with a soft doughy mass occupying the pouch of Douglas. Menses had ceased, and she had supposed herself pregnant, in December, 1878. In April, 1879, she was in St. Bartholomew's Hospital under Dr. Matthews Duncan, with supposed retroversion of the gravid uterus; and an attempt was made to push up the swelling. At the end of August she passed a large substance by the vagina; and was readmitted in September. Extra-uterine fœtation was then diagnosed, the fœtal heart having been heard on her first coming to the out-patient room, but afterwards ceasing. The uterine probe entered six inches into the abdominal hardness, and the point felt as if less than the thickness of the unimpregnated uterine-wall covered it. The patient left against advice. A fortnight before her admission under the author on January 13th, 1880, she was seized with abdominal pain. A superficial abscess, pointing near the umbilicus, was opened on the 26th, and fetid pus and *débris* let out. On February 12th, a piece of bone was felt by a probe; the opening was enlarged

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and the fœtus extracted. The placenta did not come away with the fœtus, and the discharge was very offensive for three days. A discharge took place *per vaginam* on the 23d, and the patient afterwards quickly recovered.

The second patient, aged 34, was admitted in July, 1879, for what was supposed to be pelvic cellulitis. The uterus was fixed, and there was a swelling on the left side up and about an inch above the iliac crest. She went out on October 8th, the swelling being smaller. At the end of October, some fœtal bones were passed *per rectum*, and she was readmitted in December. Discharge of bones went on until May, when some large flat pieces were nipped in two and extracted. The author thought that, if he had diagnosed this case in the earlier stage, he should have been justified in endeavouring to evacuate the cyst through the abdomen.

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The Prophylactic Washing Out of the Uterus with Carbolic Lotion after Delivery.

Professor STADFELDT, of Copenhagen, contributes a paper on this subject to No. 7 of the *Centralblatt für Gynäkologie*, 1880. He states that the previous communication in No. 5 of the *Centralblatt* (reported by us in the *Medical News and Abstract* for May, 1880, p. 302) led him to communicate some observations on the application of an antiseptic treatment modified to suit lying-in women. The author has employed this method since 1870 with ever-increasing energy, and communicated a paper on "Maternities, their Organization and Administration," to the Brussels Congress, in which he publishes his experiences. In that communication the author was able to state, that in the quinquennium 1870–74 the mortality in the Copenhagen University lying-in institution had been reduced to 1 in 87, whilst the majority during the three previous quinquennia varied from 1 in 37 to 1 in 14, and had at no single quinquennium during the long existence of the institution been nearly so low. The relation is still more favourable in the last quinquennium 1875–79, since of 5098 lying-in women only 44 died of puerperal fever, *i. e.*, 1 in 116. This result the author considers more favourable than can be presented by any similar lying-in institution which receives patients from all the hospital quarters of a town, as well as from the workhouses, in which primiparæ are decidedly in the majority. The author contends, that not only the mortality but the morbility of the patients is diminished by the antiseptic precautions. The method adopted by the author is methodical washing out of the vagina before delivery, the application of carbolic vapour spray during the delivery, and intra-uterine injections with carbolic lotion after delivery. The author expresses his astonishment that the application of carbolic spray has found so little acceptance in lying-in institutions, stating that in the Copenhagen Maternity it has been four years in use for every labour, without having caused any injurious results to mother or child. He states, also, that its application causes so little trouble that he cannot see why a method so reasonable for a lying-in institution should be summarily pushed aside. The spray must be commenced from the moment when the parts of the child begin to show themselves at the vulva until any tears which may have occurred during the delivery in the vulva are united by suture, and the genital opening is covered with a layer of prepared jute. The intra-uterine washings after delivery have been found specially beneficial under certain conditions, although he has only used three p. c. solution, but in large quantity. He has never observed any evil results from these injections in hundreds of cases. He does not recommend such injections in every case, however, but only when the hand or instruments have been introduced into the passages, or when remains of membranes have been retained in the uterus. A

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brief account of twelve cases is given in support of the advantage derivable from the use of intra-uterine injections.—*Edinburgh Med. Journal*, June, 1880.

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Typhoid Fever during Pregnancy and the Puerperal State.

Prof. GUSSEROW, in a recent paper (*Berlin. Klin. Wochenschrift*, No. 17, 1880), offers some interesting and valuable information on the relations of that ubiquitous disease to the puerperal state.

He premises that typhoid fever is comparatively rare in pregnant women, especially in the later months of pregnancy, probably because they are less liable to be exposed than healthy women. The statistics we possess on this subject are at present very scanty. At Basle, out of 1420 typhoid cases, 18, or 12 per 1000, were in pregnant women; while at Vienna, out of 1852 cases, only 24, or 13 per 1000, occurred in them. At Basle abortion occurred in 83 per cent. of the cases observed; at Vienna in only 58 per cent., the treatment adopted, as will be presently shown, having an essential influence on its production. The mechanism of the abortion in the early months of pregnancy is not absolutely clear; changes in the placenta and decidua may result from the maternal illness, and so cause the death and casting off of the fœtus. There is absolutely no proof whatever, in any case, of the occurrence of intra-uterine disease in the fœtus itself. Professor Gusserow has examined a number of fœtuses from typhoid women who have aborted, without ever finding a trace of alteration in the bowel, spleen, or elsewhere that could be referred to a typhoid origin. The great cause of abortion in typhoid fever appears to be a high temperature of the maternal blood. From Professor Gusserow's own observations, as well as from those of Hueter, Fiedler, Kaminsky, Georgi, and Winkel, there can be no doubt that the life of the fœtus is in danger as soon as the temperature of the mother exceeds 39° cent., that the danger becomes very great when it reaches 40°, and that the child inevitably dies if 41° to 41.5° be attained. The effect of high temperature is greater the longer it lasts; the fœtus may tolerate a temperature of 40°, or even 40.5° for a short time, while a protracted temperature of 39° may be fatal to it. Briefly stated, the danger to the fœtus is proportional to the duration and the height of the maternal temperature. Hence most cases of fœtal death occur in the second and third weeks of the fever. But abortion may take place during typhoid fever without the previous death of the fœtus, uterine contraction being the primary phenomenon. Such cases appear to be not very uncommon, and here also the exciting cause seems to be a long-continued action of high temperatures. Most often Professor Gusserow has observed the occurrence of this free form when the fever has kept for several days above 40° cent. with scarcely any remission, and, even where the birth-pains apparently begin during early convalescence, a careful analysis of such cases generally shows that their real commencement was before the end of the febrile period.

But there are some cases in which the exact connection between temperature and uterine action is difficult to make out. In these there is a severe rigor, with sudden increase of fever, followed by the pains of labour, the act of birth being free from excessive hemorrhage, and not unusually prolonged. Rigors, as Professor Gusserow points out, are unusual during the ordinary course of typhoid fever, nor can they be regarded, in the present state of our knowledge, as the result of the commencement of parturition, any more than the occurrence of uterine pains can be referred with certainty to the passing elevation of temperature which accompanies the rigor. At present these phenomena must be considered in the light of an unsolved riddle. The prognosis of abortion in typhoid fever depends on the period of pregnancy, and on the period of the fever at which it occurs.

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During the first three months of pregnancy severe hemorrhage is liable to accompany the act, and the patient's life may be endangered by the loss of blood. Possibly some typhoid alteration of the uterine membranes may be present to account for it. In the later months the delivery is but little diverted from its normal course by the concomitant fever. For the patient, however, it is all-important at what time during the febrile period the delivery occurs. Her best chance is for it to take place very early in the course of the typhoid. When it comes—as, unfortunately, it generally does—at the height of the fever, or in the beginning of convalescence, the prognosis, for obvious reasons, is unfavourable. Professor Gusserow's experience, also, is that these patients are more liable to puerperal infection than other women. In concluding his lecture he illustrates by typical cases the difficulty of distinguishing between the early stages of typhoid fever at the time of childbed, and puerperal fever. The two affections may, very rarely, exist in combination. The diagnosis rests on the irregular temperature and absence of a dicrotous pulse, of roseola, and of diarrhœa in puerperal fever, as well as on the condition of the uterus and its appendages, and of the lochial discharge. Splenic enlargement is common to both diseases, and is often difficult to make out in puerperal women. Owing to the protean character of the symptoms both of typhoid and puerperal fever, the differential diagnosis may in some cases be a long time undecided. As to treatment: since the height of the fever is the main element in inducing abortion in pregnant women, the energetic use of antipyretic remedies is urgently indicated. Professor Gusserow has always of late treated both pregnant and parturient women with cold baths, with the best results. The artificial induction of labour in typhoid fever he regards as an error, and to be avoided.—*Med. Times and Gazette*, June 26, 1880.

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Septicæmia from an Ovarian Cyst.

Dr. VINCENZIO (*Annali Universali di Medicina e Chirurgia*, Feb. 1880) relates an interesting case of suppuration of an ovarian cyst after tapping. The symptoms commenced about twenty-four hours after the operation, and gradually became worse, until the patient was in a condition of extreme danger. The temperature was 100.75 Fahr., pulse 120, respiration 36. The symptoms and appearances were such that there could be no possibility of doubt as to the diagnosis, nor yet as to the treatment. The author undertook the operation with the more confidence, owing to the successful result of a similar case in the hands of Dr. Peruzzi (*Raccoglitore Medico di Forli*, series iv. vol. iv. 1875) and others. The chief features of difficulty in the case were the purulent nature of the contents of the cyst, and the thinness of its walls. An incision, nearly four inches in length, was made in the linea alba, extending to within four-fifths of an inch of the umbilicus. Spencer Wells's trocar was used, and about two gallons of extremely fetid pus were drawn off through it, but unfortunately a large quantity escaped into the peritoneal cavity, and especially into the inguinal fossa. This necessitated a thorough cleansing of the parts, by which a delay of half an hour was incurred. The peduncle was large and flattened, and lay chiefly to the left side. The external wound was brought together with five deep metal sutures, and six superficial ones of carbolized silk. The strictest antiseptic precautions were employed throughout. Recovery took place somewhat slowly, partly in consequence of continual disturbances of the bowels, and partly of the extreme state of exhaustion to which the patient had been reduced previously to the operation.—*Lond. Med. Record*, June 15, 1880.

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MEDICAL NEWS.

Ovariotomy.

On June 11th, Mr. SPENCER WELLS performed ovariotomy for the one thousandth time. When we remember how many thousand hours of thought and anxiety, in addition to direct surgical labour, this unparalleled feat represents, we may well admire the completion of a Herculean task; yet sober reasoning gives us yet more cause to admire its commencement, both as a credit to surgical science and to the great contemporary operator himself. The thousandth case was the brilliant consummation, under relatively easy conditions, of a struggle commenced under diametrically different auspices.

Let us bear in mind what the word ovariotomy implied when it caught the ear of any surgeon in December, 1857; then let us reflect on the present position of the operation. In addition to Mr. Wells's long list of cases, we have long tables of statistics of operations by other surgeons, which, but for Mr. Wells's example, might have been, at the least, much shorter. Fairness leaves us room for but one opinion as to whom honour and credit are due.

In 1857, forty-eight years had elapsed since McDowell first performed ovariotomy. This was an accomplished fact; there cannot be a second first, and none have offered more homage to the memory of the American than Mr. Wells himself. But that which McDowell originated was, till then, taken up by others always with diffidence and timidity, and never with sufficient success to impress surgical society with confidence. McDowell stands to Spencer Wells in the same relation as Solomon de Caus, the Marquis of Worcester, Papin, and Savery bear to James Watt. In 1857, the operation had fallen into absolute disrepute; as Dr. Keith admitted once in these pages: "Ovariotomy was then, as an operation, simply nowhere." Dr. Clay had achieved fair success in the provinces, yet somehow he failed to inspire confidence among either provincial or metropolitan surgeons, and thus to really establish ovariotomy as a justifiable operation. In spite of all his skill and foresight, Baker Brown had met with so many failures that he was threatened with an inquest on his next fatal case, and had not operated for two years when Mr. Wells began. Liston had stigmatized ovariotomists as "belly-rippers;" Lawrence and other great hospital surgeons were indefatigable in throwing discredit on them.

Besides great personal supervision of the minutest points of general after-treatment, Mr. Wells at once set in practice and strenuously advocated certain details of manipulation and of therapeutics, previously more or less disregarded. He discarded the plan of tying the pedicle and leaving the ends of the ligature hanging out through the wound. He shortened the incision in the abdominal wall, and emptied the cyst before attempting to draw it out. He substituted extra- for intra-peritoneal treatment of the pedicle, and did not recur to this intra-peritoneal method until antiseptics altered the whole position of the operation. He took great care to include the peritoneum in the sutures uniting the abdominal wound—a practice based on scientific experimental evidence, visibly demonstrated by his preparations showing the effects of sutures in uniting abdominal wounds in animals, now in the museum of the College of Surgeons. He did not insist on the administration of opium after operation, unless it were strongly indicated; and he objected to the operation chamber being kept at a stifling temperature. Again: he made his subject scientific. Apart from free publicity of statistics before the Royal Medical and Chirurgical Society, he exhibited before the Pathological Society not only specimens which illustrated

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anomalies in ovarian disease, and rarities in the way of pelvic tumours, for which every operator must be prepared, but every tumour which he removed, whatever the result was, until the operation was thoroughly recognized as legitimate.

What are the fruits of all this labour, beyond all that is implied in the completion of one thousand cases? Out of Mr. Wells's first five hundred cases, three hundred and seventy-three recovered and one hundred and twenty-seven died—a mortality of 25.4 per cent. Great practical results had already followed his efforts; and several imitators had commenced to practise ovariotomy with his precautions, and had achieved success. Of the next three hundred cases, two hundred and twenty-three recovered and seventy-seven died—a mortality of 25.6 per cent. Eighty-three recovered out of the next one hundred cases, and seventeen, or 17 per cent., died. During the last two years that Mr. Wells operated at the Samaritan Hospital, the real battle-ground of his victories, 90 per cent. of his hospital cases were cured. Lastly: of the concluding hundred cases, eighty-nine have recovered and eleven, or 11 per cent., died. In 1878, shortly before the completion of nine hundred cases, he had adopted antiseptic precautions. The grand total shows seven hundred and sixty-eight recoveries and two hundred and thirty-two deaths—a mortality of 23.2 per cent.; but, of course, to judge these statistics fairly, the low mortality of 11 per cent. in the last hundred must, in the present state of the operation under antiseptic precautions, be taken as an average which we may hope to see still further diminished; and, in justice to the operator, we must not forget that, for obvious reasons, many of the later cases have been highly complicated, other surgeons having undertaken many simpler cases which, a few years back, would have been referred to Mr. Wells.

Lord Selborne, in a public address, once demonstrated how the recovery of three hundred and seventy-three patients out of Mr. Wells's first five hundred cases represented a total gain of 10,817 years of human life. By the same calculation, multiplying the 768 recoveries by 29, the insurance "life expectancy" number, we find that 22,272 years of human life may be estimated as having been added to society by the direct agency of Mr. Spencer Wells. On this and the above observations comment is needless. Without disparaging either the past introducer or the present perfectors of ovariotomy, Mr. Spencer Wells has rescued the operation from the discredit into which it had fallen, and established it, in the opinion of the profession here and abroad, as a thoroughly legitimate and marvellously successful surgical operation.—*Brit. Med. Journ.*, June 19, 1880.

American Medical College Association's Requisite for Graduation.—At the late meeting of the American Medical College Association an amendment to the Articles of Confederation was adopted, requiring its members to exact of all candidates for the degree of M.D. attendance upon three courses of at least twenty weeks each during three distinct years, as the condition for conferring the degree. Of the twenty-five colleges composing the Association, twenty voted in the affirmative, one declined to vote, and four were not represented.

Medical Society of New Jersey.—The one hundred and fourteenth annual meeting of this Society was held at Princeton May 25th and 26th, Dr. A. W. Rogers, of Paterson, President, in the chair. The following office bearers were elected for the ensuing year: President, A. N. Dougherty, M.D., of Newark; Vice-Presidents, Drs. L. W. Oakley, of Elizabeth, John W. Snowden, of Waterford, and S. Wickes, of Orange; Secretary, Dr. Wm. Elmer, Jr., of Trenton. The next meeting will be held at Long Branch.

Ohio State Medical Society held its thirty-fifth annual meeting at Cleveland June 15th and 16th, Dr. J. A. Murphy, of Cincinnati, President, in the chair.

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The following office bearers were elected for the ensuing year: President, E. H. Hyatt, M.D., of Delaware; Vice-Presidents, Drs. Cyrus Falconer, of Hamilton, J. C. Hubbard, of Ashtabula, R. L. Sweeny, of Marion, and H. J. Donahue, of Sandusky; Secretary, Dr. J. F. Baldwin, of Columbus. The next meeting will be held at Columbus.

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Rhode Island Medical Society held its annual meeting at Providence June 9th, Dr. Edward T. Caswell, of Providence, President, in the chair. The Fiske-Fund Prize Committee reported that the prize of $200 had been awarded to Dr. Charles V. Chapin, of Providence, for an unusually meritorious essay on "The Sympathetic Nerve in its Relation to Disease."

The following officers were elected for the ensuing year: President, Charles O'Leary, M.D.; Vice-Presidents, Drs. Job Kenyon, and O. C. Wiggin; Secretary, Dr. V. O. Hardon, all of Providence.

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Texas State Medical Association held its twelfth annual session at Brenham, Washington County, April 6th, Dr. John H. Pope, of Marshall, President, in the chair. The following officers were elected for the ensuing year: President, Dr. A. R. Kilpatrick, of Navasota; Vice-Presidents, Drs. R. M. Swearingen, of Austin, E. J. Beale, of Fort Worth, and O. H. Seeds, of Columbia; Secretary, Dr. R. H. L. Bibb, of Austin. The next meeting will be held at Waco on the first Tuesday of April, 1881.

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Ophthalmological Society of Great Britain.—On the evening of June 23, a meeting of the leading ophthalmic surgeons of the United Kingdom was held in London to organize an ophthalmological society. Mr. Bowman occupied the chair. It was determined to institute the "Ophthalmological Society of the United Kingdom," which should meet about five times a year, ordinarily in London, and that the Society should publish *Transactions*. Mr. Bowman was elected President of the Society.

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Personal.—At a congregation held on the 10th of June at Cambridge, England, the honorary degree of Doctor of Laws was granted to the following gentlemen on the occasion of the proposed meeting of the British Medical Association at Cambridge in August: Dr. Paul Broca, of Paris; Dr. C. E. Brown-Séquard, F.R.S., of Paris; Dr. Chauveau, of Lyons; Dr. F. C. Donders, of Utrecht; Dr. S. D. Gross, of Philadelphia; Sir William Jenner, K.C.B., M.D., F.R.S.; Sir William Gull, M.D, F.R.S.; Sir George Burrows, M.D., F.R.S.; Mr. William Bowman, F.R.S., of London; Rev. S. Haughton, M.D., F.R.S., of Dublin; Mr. Joseph Lister, F.R.S., of London; Dr. Denis C. O'Connor, President of the British Medical Association; Mr. John Simon, C.B., F.R.S., of London; Dr. Andrew Wood, M.D., F.R.S.E., of Edinburgh.

The selection made by the University of Cambridge of a representative of the medical profession of America, upon whom to confer its degree of Doctor of Laws, will be universally conceded as eminently fit. It will be remembered that a few years ago, upon the occasion of his last visit to Europe, the University of Oxford conferred upon Dr. Gross its degree of Doctor of Civil Laws, and now, after having received the degree of LL.D. Cantabriensis, he will enjoy, among the many marks of distinction which have been conferred upon him, the rare honour of being an alumnus of the two most ancient and learned universities of Great Britain, and of having received from them their highest honours.

The honorary degrees will be conferred in the Senate House, at Cambridge, on the 11th of August, at 12.30 P. M., upon which occasion Dr. Gross will be present.

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American Dermatological Society will hold its fourth annual meeting at the Ocean House, Newport, on the 31st day of August.

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Prizes.—The Boylston Medical Committee have voted this year's prize of one hundred and fifty dollars to W. Watson Cheyne, F.R.C.S., Assistant Surgeon of King's College Hospital, London, for a dissertation on "Antiseptic Treatment: What are its Essential Details? How are they best carried out in Practical Form?" and in view of the great excellence of this dissertation the committee voted that there be added to their award the Boylston Prize Gold Medal.

The following are the questions proposed for the prize ($300) for 1881:—

I. The Effects of Drugs, during lactation, on either nurse or nursling.

II. Injuries to the Back, without apparent mechanical lesion, in their surgical and medico-legal aspects.

The following are questions proposed for 1882:—

I. Sewer Gas: What are its physiological effects on animals and plants. ($300 will be paid to the author of the successful dissertation on this subject.)

II. The Therapeutical Value of Food, administered against, or beyond, the patient's appetite and inclination. (A premium of $200 will be paid to the author of the successful dissertation on this subject.)

The Cartwright Prize ($500) of the Alumni Association of the College of Physicians and Surgeons, New York, will be awarded after February 1, 1881, to the best essay on some subject in medicine or surgery. The prize is open to only the Alumni of the College, and the essay must present sufficient original experimental or clinical observation to make it a useful contribution to medicine.

The directions as to the mode of transmission of competing essays for these prizes will be found on pages 304 and 298 of the July number of the *American Journal of the Medical Sciences.*

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Literary Notes.—Dr. Harris's elaborate article on the Porro Operation, which appeared in the April number of the *American Journal of the Medical Sciences,* has been translated and republished in full in the number of the *Annali Universali di Medicina e Chirurgia* just received.

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Obituary Record.—At Washington, D. C., on the 7th of June, aged 75, James Crowdhill Hall, M.D., formerly Professor of Surgery in the Medical Department of Columbian University.

Dr. Hall was a native of Alexandria, Va., and graduated in medicine at the University of Pennsylvania in 1827. He was prominent in the performance of both his professional and civic duties. He is said to have been physician to all of the Presidents from Jackson to Lincoln, and to most, if not all, of the foreign ministers resident in Washington during that period. He was actively identified with all the local medical charities of Washington, and was President of the Trustees of the Corcoran Art Gallery, and on the occasion of the reception given by that body to the Pharmacopœia Convention in May last, he personally received the delegates, and his courteous and dignified manners and well-stored fund of information did much to enhance the pleasure experienced in examining this beautiful art collection. Ripe in years and full of honour he has been gathered unto his fathers, leaving a record which will be long held in loving memory by his fellow-townsmen.

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To Readers and Correspondents.—The editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession. Local papers containing reports or news items should be marked.

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THE

MEDICAL NEWS AND ABSTRACT.

VOL. XXXVIII. No. 9. SEPTEMBER, 1880. WHOLE No. 453.

(For List of Contents see pp. 575-6.)

CLINICS.

Clinical Lectures.

ON SEXUAL DEBILITY, SEXUAL EXHAUSTION, AND IMPOTENCE.

A CLINICAL LECTURE DELIVERED AT THE JEFFERSON MEDICAL COLLEGE HOSPITAL.

BY SAMUEL W. GROSS A.M., M.D.,

LECTURER ON VENEREAL AND URINO-GENITAL DISEASES IN THE JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA, AND SURGEON TO THE HOSPITAL.

GENTLEMEN: At my last two clinics I introduced patients with certain general and local motor, sensory, and secretory neuroses dependent upon lesions of the urino-genital apparatus. Of the nervous disorders relating to muscular movements remote from the genital organs, you will remember a lad, eight years of age, with paralytic talipes equinus, and a child of four years who was suffering from impairment of the power to coördinate the voluntary movements of the lower extremities. In both of these cases the trouble arose from an elongated, contracted, and adherent prepuce. You also had under observation a man, twenty-three years of age, who was greatly annoyed by vertigo and twitching of the muscles of the legs, which were traced to excessive sensibility and stricture of the urethra. Of the sensory neuroses you have seen examples of morbid states of the urethra giving rise to pain in the back, shoulders, nucha, head, and in one case at the outer side of the tendines Achillis; and I had before you a man in whom numbness of the thighs was a prominent symptom.

In addition to these reflex nervous disorders of the system at large, you will recall the cases of neuroses of the urino-genital organs themselves arising from various affections of those systems. Among the local neuropathies you have witnessed instances of spasm of the urethral muscles, and of spasm and paralysis of the sphincter and detrusor muscles of the bladder. Of the sensory troubles, cases of hyperæsthesia of the urethra, testes, and spermatic cord were quite common; while of the secretory neuroses, which were also combined with motor and sensory phenomena, I have introduced examples of prostatorrhœa, nocturnal pollutions, and true spermatorrhœa. In the majority of these cases we found other symp-

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toms, such as impairment of memory, troubled and unrefreshing sleep, a feeling of heaviness on rising, coldness of the hands and feet, poor appetite, constipation, coated tongue, palpitation of the heart, and additional signs of dyspepsia. Prominent among the subjective symptoms were dorsal pain, which was increased by exercise and exposure; muscular weakness of the limbs, so that the patients were exhausted by comparatively slight exercise and exertion; and a feeling of fatigue on getting out of bed. These phenomena, I told you, indicated neurasthenia, nervous exhaustion, or the depressed form of spinal irritation, which, in the absence of post-mortem evidence, is supposed to be due to anæmia of the lumbar division of the cord.

In endeavouring to account for these symptoms I impressed upon you the necessity of exploring carefully the male organs of generation when examination of the cerebro-spinal axis failed to throw light upon them. While phimosis, acquired or congenital contraction of the urinary meatus, balanitis and stricture of the urethra frequently give rise to reflex neuroses, I have found that they are usually traceable to inflammatory disorders of the prostate, which bear the same relation to nervous affections in the male that lesions of the uterus do to allied disorders in the opposite sex. The prostate, with its intercallated acinous glands, and the structures that are contained within or traverse it, as the urethra, the veru montanum, the sinus pocularis, or prostatic vesicle, or utriculus, which is the homologue of the uterus, and the ejaculatory ducts, are supplied by large nerves derived from the hypogastric plexus of the sympathetic, the sacral plexus of the spinal nerves, and, through the lumbo-sacral trunk, from the lumbar plexus. In consequence of the free interchange of fibres between the sympathetic and the cerebro-spinal systems of nerves, it is obvious that the component parts of the genitalia are not only in intimate connection with one another, but also, through the agency of the cord, with remote parts. Hence it is that prolonged hyperæmia or inflammation of the prostate and its included structures gives rise not only to essential symptoms, but occasions various signs in other organs and tissues which are of a reflex or functional nature. If the inflammation becomes chronic, and if the causes that produce it, of which the most common is undue excitement of the sexual function from masturbation, excessive venery, and unsatisfied and prolonged desire, be kept up, exaggerated irritability of the medullary and vaso-motor centres will set in and soon be followed by exhaustion or anæmia of the lumbar spinal cord, and the condition known as neurasthenia.

I shall ask your attention this morning to sexual exhaustion, which is another common and distressing reflex neurosis connected with the male genital function, although impotence, or inability to perform coitus properly, may result from vices in the conformation of the genital organs, or be merely symptomatic of central lesions of the nervous system. Of this condition arising from inflammatory affections of the reproductive apparatus, to which alone I shall refer, there are several grades which I will illustrate by typical cases, derived mainly from the out-patients' department.

CASE I.—A teacher, 24 years of age, tells me that he acquired the habit of masturbation when he was fifteen or sixteen years old, and that he kept it up for about three years. During the ensuing two or three years he had occasional sexual intercourse, but, to use his own language, "for the past twenty-four months I was unable to perform the act, owing

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to an insufficient erection and a premature discharge. My greatest trouble for five years has been voluptuous dreams; and the nocturnal emissions would sometimes occur for five consecutive nights, causing great mental and physical depression. I find that in toying with or fondling women a discharge oozes from my urethra in quantities sufficient to stain my linen. My memory is impaired; I have lost some flesh; and I am easily fatigued."

You will observe that the external genitalia are normal. On inserting a No. 22 French exploratory bougie, I discover a stricture one-eighth of an inch behind the meatus, and I find that its further passage is attended with great pain, which becomes excessive in the prostatic portion of the urethra. On withdrawing the instrument I find that its shoulder is arrested by another coarctation at five inches and three-quarters, and that it brings away some prostatic discharge.

CASE II.—A mechanic, 26 years of age, states that for the past eighteen months he has had intercourse with one woman three or four times every night, and that he occasionally fulfilled engagements of a similar nature with other females. Latterly he has observed that his powers were growing feeble, and at present his erections are flabby and his ejaculations precipitate. He looks pale; is easily fatigued; and suffers from pain in the back and from frequent and painful micturition.

As in the preceding case, the penis and testes are perfect; but a No. 25 explorer detects a very sensitive urethra and a stricture seated at six inches from the meatus. The neck of the bladder is also extremely irritable.

CASE III.—A weaver, 37 years of age, has been under treatment in the out-patients' department for the past month for hyperæsthesia of the urethra complicated by two strictures, one of which is located at three inches and a half and the other at six inches from the meatus, the latter being narrow and tortuous and only permeable by soft instruments. He has had gonorrhœa three times, the last attack having occurred fourteen years ago; and for the past three years the erections have been growing more and more feeble, until they frequently passed off before intromission, and coitus was always attended by precipitate ejaculation. In addition to his sexual troubles, he complains of numbness along the outer side of the left thigh, almost constant dorsal pain, and a dull, heavy pain in the back of the head, the left side of the neck, and the left shoulder, all of which localities now and then suddenly and temporarily become red and hot. The suffering is aggravated by exercise and continuous work; his sleep is unrefreshing; and he has dyspeptic symptoms.

These three cases represent the most common form of sexual debility, the prominent signs being imperfect or feeble erection and premature ejaculation. Desire, however, is unimpaired, and intercourse is possible, although it is unsatisfactory. In all the exciting cause was chronic hyperæsthesia and inflammation of the prostatic urethra which was produced, respectively, by masturbation, excessive coitus, and gonorrhœa, and was kept up by one or more strictures. One case was complicated by nocturnal emissions, and another by inflammation of the neck of the bladder. In all there were symptoms of neurasthenia and anæmia of the lumbar division of the spinal cord; and as Goltz has shown that this portion of the cord is the centre for the erigent and ejaculatory nerves, we can readily account for impairment of the virile power when its healthy action is depressed or its energy is diminished.

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The next patient whom I shall introduce illustrates the second grade or form of sexual exhaustion, which is characterized by entire loss of the power of erection, without, however, abolition of desire. Hence persons affected in this way are not only impotent, but from their inability to practise coitus, they are also sterile.

CASE IV.—This man is a mechanic, aged 23 years. At about his sixteenth year, after having been in the habit of masturbating freely for six or seven years, he observed a urethral discharge. He never had sexual intercourse until he was twenty-one; and, after a few months of moderate indulgence, the discharge increased, and the erections became more and more weak until he was finally unable to consummate the act, although the desire remained. He is pale; suffers much from pain in the back, the shoulders and anus, and the left temporo-maxillary articulation; and is easily fatigued.

When he presented himself two weeks ago, examination with a No. 25 explorer, which was attended with great nervous agitation, disclosed intense hyperæsthesia of the entire urethra, and particularly of its prostatic portion, but there was no indication of a stricture. He afterwards rode to his house in the street cars, and about two hours later, after urinating, he was seized with a curious crawling sensation in his arms and legs, lost consciousness, and, when found by his friends, was lying on the floor, and his face was livid. On his next visit, three days subsequently, he was placed upon thirty grains of bromide of potassium with five drops each of juice of belladonna and tincture of gelsemium every eight hours, and directed to take ten grains of quinia one hour before his next visit, which occurred one week ago. At that time a conical steel bougie was passed, and one-third of a grain of morphia thrown under his skin.

To-day he reports that the passage of the instrument brought on a slight epileptoid paroxysm, as indicated by clonic spasms of the muscles of the arms and eyelids, and a feeling as if he would become unconscious; and these symptoms were followed by prostration and numbness of both hands. With the view of preventing or mitigating a similar seizure he has taken ten grains of quinia, and he will have a third of a grain of morphia administered hypodermically before he leaves the amphitheatre. You will observe, as soon as the exploratory bougie enters the canal, the tremor and retraction of the testes, and as the bulb reaches the prostatic urethra you see that he shrinks from the excessive pain which it awakens, and that the muscles of the lids, nose, and mouth twitch convulsively. On withdrawing the instrument it is found to be covered with prostatic secretion.

As in the previous cases, the sexual difficulty in this man arises from inflammation and morbid sensibility of the urethra, and more particularly of its prostatic portion. It is moreover interesting from the fact that instrumental contact provokes epileptoid attacks, a complication which is by no means commonly witnessed.

In the third phase of the affection, not only is there complete loss of erectile power, but sexual desire is likewise abolished. Fortunately I have no illustration of this condition. I say fortunately, because the subjects are extremely liable to melancholy and hypochondrism; and although the lesions upon which their impotence depends may be removed, their mind is so seriously affected that a final recovery is almost hopeless.

Finally, there is a fourth class of cases, in which there is desire and complete power over erection and coitus, but the patient is unable to have a seminal discharge, although he may have voluptuous sensations.

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This peculiar state, which is known as aspermatism, I include among the reflex neuroses from inflammation and hyperæsthesia of the prostatic portion of the urethra, because I discovered those lesions in the four instances that have come under my observation. Aspermatism may be due to a tight stricture, to absence, obstruction, or deviation of the ejaculatory ducts, either as the result of disease, injury, or a congenital vice, to obliteration of the prostatic vesicle, and to various morbid conditions of the prostate and testis. Of these lesions, however, I have nothing to say, as I distinctly stated at the beginning of this lecture that I would only consider impotence as a temporary neurosis arising from inflammation and undue sensibility of the prostatic urethra.

In the majority of cases, although there is absence of ejaculation on coitus, the patient has nocturnal emissions; but when he is awake neither the venereal act nor masturbation can provoke a seminal discharge. Just exactly what the trouble is, is a mere hypothesis; but I fancy that there is a want of excitability of the reflex ejaculatory centre, or that there is reflex atony of the muscular structure of the seminal passages. However this may be, the next patient affords an admirable illustration of this curious condition complicated by prostatorrhœa.

CASE V.—A teacher, 22 years of age, had gonorrhœa five years ago, which degenerated into a gleet. For the past three years he has had a more or less colourless discharge, particularly after erections and straining at stool. During the past eighteen months he has been unable to have an ejaculation during coitus, although he prolongs the act until fatigue requires him to cease. Now and then he has a nocturnal emission, attended with diminished sensation, under the influence of a voluptuous dream; and erections are provoked by slight causes. He is continually morbid about his condition, so that he can scarcely attend to his daily duties, being unable to fix his thoughts for any length of time upon any subject except his sexual trouble. He has pain in his back, loss of appetite, and palpitation of the heart.

Exploration with a No. 25 bulbous explorer discovers a very sensitive prostatic urethra, a linear stricture at six inches from the meatus, and a considerable prostatic discharge.

In all of the cases that I have introduced, hyperæsthesia, particularly of the prostatic urethra, which was maintained in four out of the five by one or more strictures, and induced by masturbation, sexual excesses, and gonorrhœa, was the prominent symptom. Hence, I feel warranted in stating that undue sensibility and excitement of the prostatic portion of the canal and of the ducts which open into it, are the most common and important causes of the spinal reflexes which make themselves known by the various grades of sexual exhaustion or impotence, and other signs of the depressed form of spinal irritation.

Of the relative frequency of the four varieties of sexual troubles of which I have spoken, an examination of 97 cases that have come under my personal observation discloses that 87 were examples of feeble erection and premature ejaculation; 4 were instances of loss of power of erection, with retention of desire; 2 were examples of loss of both power and desire, and both were hypochondriacs; while 4 came under the class of aspermatism.

The etiological factors were, gonorrhœa in 30, masturbation in 66, and excessive coitus in 1. Just how far prolonged and unsatisfied passion, produced by toying with females, is to be considered an exciting cause of

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the affection I am unable to say, since I find that young men addicted to this habit are very liable to relieve themselves by onanism.

With regard to masturbators I have made some notes that are interesting and practically useful. Thus I find that one in every three has an elongated prepuce; one in every five has an inflamed meatus; one in every two and a half has a very sensitive urethra; that the same proportion suffers from a gleety discharge; and that one in ten has a small penis. As I have pointed out in a paper read before the Philadelphia County Medical Society, and published in the *Medical and Surgical Reporter* for May 3, 1877, and in a paper which appeared in the *Transactions of the American Medical Association* for 1877, protracted masturbation is just as sure to result in urethritis and the formation of stricture as is a chronic clap. Of the 66 masturbations only 3, and one forms the subject of Case IV., were free from stricture, so that that lesion should always be looked for in this class of patients. In about five-sixths of the cases there is only one coarctation, while in the remainder two or more strictures will be found. In one-sixth of the entire number the contraction is seated within the first inch of the urethra.

In the treatment of disorders of the genital function arising from preternatural sensibility of the prostatic urethra your first care should be to make a thorough examination of the generative and associated organs with the view of getting rid of the causes which produce and maintain them. If the patient has a redundant prepuce, it should be removed; if the meatus be contracted, it should be enlarged; while herpes of the prepuce and glans, or balanitis should be treated in the usual way. All of these lesions are capable of setting up hyperæsthesia of the prostatic portion of the urethra, or even of exciting reflex impotence without the intervention of prostatic trouble, and their relief is quite sufficient in mild cases to restore virility. The same statement is true of certain diseases of the rectum, so that the lower bowel should receive due attention.

In the great majority of cases you will find, as you have learned from the patients that have been brought before you, that the treatment is to be directed to overcoming the hyperæsthetic prostatic urethra, which is usually complicated by stricture of the spongy portion of the canal. Hence your remedies, whether these be local or general, must be of a sedative nature; and your patient at the outset should be impressed with the importance of avoiding all sources of sexual excitement, such as coitus, masturbation, dalliance with women, and lascivious thoughts and literature. Of general remedies, the aphrodisiacs, as cantharides, phosphorus, and damiana, are harmful; while anaphrodisiacs are always indicated. Of the latter, an extended experience has convinced me that bromide of potassium is by far the best, as it not only blunts the venereal appetite, but also corrects the acidity of the urine, and exerts an anæsthetic influence on the urethral mucous membrane. I am in the habit of administering thirty grains every eight hours, unless I find it makes the patient too drowsy during the day, when I order a drachm to be taken at bedtime. If signs of bromism appear, I reduce the dose; or if the remedy is badly borne I usually substitute ten drops of tincture of belladonna, and five drops each of tincture of gelsemium and Fowler's solution, three times a day, which is an admirable combination. The preparations of belladonna are particularly appropriate when the case is complicated by nocturnal emissions, and may be given in the form of the fluid extract, tincture, or juice, or of atropia

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administered hypodermically or by the mouth. When the patient is anæmic, he should also take tonics, of which a combination of quinia, tincture of the chloride of iron, and tincture of nux vomica is one of the most suitable.

In addition to sedatives and tonics the bowels should be kept in a soluble condition, particular attention being paid to the rectum. For this purpose, ordinary hydrant water may be thrown into the lower bowel every morning, as it has the additional advantage of soothing the irritated prostatic urethra. If cool water enemata do not answer the purpose, and there is atony of the muscular coat of the intestines, a pill composed of two grains of the compound extract of colocynth, half a grain of the extract of nux vomica, and the tenth of a grain of extract of belladonna may be administered on going to bed; or, if it be deemed desirable to act on the liver, a wineglassful of Hunyadi water, or two or three drachms of equal parts of Epsom and Rochelle salt, may be ordered every morning. Any especial dyspeptic symptoms are to be met by appropriate remedies.

The diet should be nutritious and digestible, but unstimulating. The patient must eschew coffee, malt and alcoholic liquors; and his supper should be light. He should sleep on a hard mattress, use only the lightest coverings, and empty his bladder thoroughly on retiring, and early in the morning, if an erection indicates fulness of that viscus. He is to be warned against horseback exercise and driving over rough streets and roads, and all other forms of amusement which tend to produce hyperæmia of the genitalia, as well as against mental and bodily fatigue if the signs of neurasthenia be marked. Benefit will accrue from moderately cool lotions to the dorso-lumbar region, in the form of irrigation, the douche, or the wet sponge; and syringing cool water against the perineum will be found to be of great service when prostatic discharges or pain on exercise indicate that that organ and its included urethra are too excitable.

Of the local measures to overcome chronic congestion, inflammation, and hyperæsthesia of the veru montanum, the prostatic urethra, the ejaculatory and prostatic ducts, not one is so universally applicable as the passage of the conical steel bougie. The size of the instrument is to be gauged by that of the meatus if it be normal, or by that of the stricture if one be present, and its circumference should be gradually increased up to the full capacity of the urethra, as indicated by the urethrometer. To effect this, however, the meatus will have to be enlarged as a preliminary measure, or you may use my urethral dilator which dispenses with that operation. At first the bougie should be at once withdrawn, and the intervals between the insertion should be forty-eight hours. With the decrease of the sensibility it should be retained longer, and the intervals of introduction be shortened. If the stricture be irritable or resilient it should be subjected to internal urethrotomy, as no progress can be made unless the contraction be a simple one.

As an illustration of the readiness with which cases of sexual debility improve under simple and properly directed measures, I show you a patient who was before you just four weeks ago.

CASE VI.—On the 8th of April, a mechanic, aged 23 years, gave us the following history. He complained of a gleety discharge, which kept the lips of the meatus glued together, and had existed for two years and a half; of a discharge of prostatic fluid at stool; and of nocturnal seminal emissions, which were often as frequent as every night during a single week, and now and then occurred to the number of three in a night. The

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erections were feeble, and ejaculation was premature. The bowels were costive, but he had no signs of spinal exhaustion. Examination with a No. 17 explorer disclosed a stricture one-eighth of an inch behind a contracted meatus, and a highly sensitive urethra, especially in its membranous and prostatic divisions. On withdrawing the instrument a few drops of prostatic fluid came away. I laid open the meatus along with the stricture, and directed the pill of colocynth, nux vomica, and belladonna at bedtime, and thirty grains of bromide of potassium every eight hours. The incision was prevented from closing by the passage of a No. 30 conical steel bougie, which was passed through the entire urethra every other day for three weeks, and daily for the past week. To-day, May 6th, the hyperæsthesia has almost entirely disappeared; the gleet has ceased; there is merely a slight prostatic discharge if the bowels are allowed to become constipated, but he has not noticed it for several days; there were nocturnal emissions on the nights of April 17 and 18, and the erections are improving in vigor. The treatment will be continued, and a cure may be looked for in another month.

All cases do not respond so quickly to treatment as this one. Should the tenderness of the urethra prove refractory, you may resort to compression combined with the local application of cold with the cooling sound, or psychrophor of Winternitz, which is nothing more than a double current catheter closed at its beak. By means of these tubes a stream of water of a temperature of about 59° should be passed through the instrument for ten minutes. In many instances you will find that the inflammation and morbid sensibility are finally reduced to a small, and probably granular, patch, which will demand astringent applications. Of these I prefer a twenty-grain solution of nitrate of silver, carried to the tender spot in the way you have so often seen me do, and which I told you I learned from M. Felix Guyon, the successor of Civiale at the Hôpital Necker, of Paris. I charge the small syringe with the solution, attach to its nozzle a hollow bulbous bougie or explorer, and press upon the piston until a drop of the fluid appears at the hole in the apex of the bulb. Wiping this off, I oil the bougie, carry it down until the bulb defines the inflamed patch, withdraw it slightly, when, with my finger on the piston, I deposit a few drops of the liquid in the urethra. The bladder should be emptied before making the application, and the patient should be kept in bed for some hours subsequently, and use demulcent drinks. With these precautions the only inconvenience to which he will be subjected will be some scalding during the next act of micturition. The application need not be made oftener than once a week. In the absence of this contrivance, you may employ the catheter-syringe, the instrument provided with a concealed sponge, or the porte-caustique of Professor Gross, the cup of which is charged with the nitrate rubbed up with stramonium ointment. When the affection proves more obstinate, as it is liable to do when it is chronic, and complicated by prostatorrhœa in mature subjects, flying blisters, made by pencilling cantharidal collodion on each side of the perineal raphé, are of the utmost service.

Up to this point you will observe that the treatment, both general and local, has been addressed to relieving the inflammation and hyperæsthesia of the deep urethra. When this has been accomplished, nothing more, as a rule, is required; but cases occur in which after the local lesions have been cured, the erections are still not sufficiently vigorous and the ejaculations are premature Our object now is to restore the sexual powers

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by the internal exhibition of iron, quinia, strychnia, phosphorus, ergot, and tincture of cantharides, alone or variously combined; by cool hip-baths and cool applications to the dorso-lumbar region; and by electricity. The anode of a battery is placed over the lumbar spine, and the cathode carried over the spermatic cord, the testes, perineum, and back of the penis. The sittings at first should not exceed five minutes, or be repeated oftener than every forty-eight hours. The current, moreover, should be feeble, and not excite pain even when its strength is increased. When there is atony and relaxation of the ducts, as shown by prostatic and seminal discharges after the hyperæsthesia has disappeared, a negative urethral electrode may be passed down to the prostatic urethra, or one may lie in that locality while the other is inserted into the rectum. I must caution you, however, to be careful in the use of the urethral rheophore, as I saw not long ago in consultation with my friend, Dr. Asch, of New York, a gentleman who had lost his right testicle from suppuration through its employment while the urethra was still irritable. In addition to these measures a change of air, travel, exercise, amusement, and sea-bathing will do much to tone up the system.

The end having been accomplished, it remains to put your patient on his guard against sexual excesses. Unless he practises moderation, he is liable to a relapse; and if he is single you should advise him to marry. When sexual exhaustion arises from central nervous lesions, he should remain single; but when it is due to prostatic trouble, and there is no hypochondrism, you are perfectly safe and right in recommending matrimony.

In the management of these disorders, I have not had aspermatism in view. Although I have seen four cases, I have not been able to conduct the treatment in a single one; but as I fancy that this condition, when it is combined with inflammation and morbid sensibility of the deep urethra, depends upon atony of the seminal vesicles, I have no reason to doubt that the course which I have outlined will prove effective.

ON THE RADICAL CURE OF VARICOCELE BY THE GALVANIC ÉCRASEUR.

A Clinical Lecture delivered at the Westminster Hospital, July 3d, 1880.

By A. PEARCE GOULD, M.S., F.R.C.S.

Assistant-Surgeon to the Hospital, and Lecturer on Anatomy to the Medical School.

Gentlemen: Although there are very many cases of varicocele in which no treatment, or only palliative measures, are required, you will meet with others in which it will be your duty to undertake the permanent or radical cure of the varix. These cases are as follows: 1. Where the testicle is atrophying. 2. Where the varicocele is double, especially if an examination of the semen shows an absence of spermatozoa, or the patient, being married, is sterile. 3. Where the opposite testicle is lost or useless from tumour, orchitis, epididymitis, or injury. 4. Where the varix is large and increasing, in spite of palliative treatment. 5. Where the varix causes much pain, or interferes with proper exercise and necessary work. 6. Where it is the occasion of marked mental depression. 7. Where the varicocele prevents acceptance for either of the Government services.

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There are many plans for securing the radical cure of varicocele, including castration, excision of the veins, the actual cautery, forcipressure, and ligature. The ligature is the method most commonly adopted, and has been variously modified by Ricord, Vidal, Erichsen, Wood, and H. Lee. (These methods of treatment were then described.)

Of the efficacy of these treatments there can be no doubt, but unfortunately they have two drawbacks—the pain attending them, and a certain amount of dangèr. For a long time surgeons avoided as far as possible any interference with veins, and although veins are now ligatured almost as freely as arteries, there is no doubt that diffuse thrombosis, embolism, and septic poisoning are more liable to follow injuries of veins than of arteries. This being so, it is plainly the surgeon's duty to avoid in every possible way any irritation or disturbance of an injured vein, and it is because this principle is not sufficiently carried out that the usual modes of treating varicocele have been attended with serious and even disastrous results. The daily twist of Vidal's pin, and constant traction of Wood's spring, are not only painful, but opposed to the great principle that demands perfect rest to all inflamed and injured tissues, and veins in particular, while, in Lee's operation, the presence of two harelip-pins transfixing the scrotum is apt to set up œdema and inflammation, and their removal is not without risk of embolism. That these are no imaginary fears is evident from the published results of these and analogous treatments. Gant says that the results of the operations are "variable," and include diffuse inflammation and sloughing of the scrotum, suppuration of the testicle, phlebitis, pyæmia, and death; Erichsen records two deaths from the twisted suture; Gross had one death after ligature; Sir E. Home had one nearly fatal case; Escallier mentions two fatal cases of phlebitis, and Curling speaks of three cases of serious results, two of which were fatal. Some years ago the censor of one of the chief London hospitals died from pyæmia after Lee's operation. This list by no means includes all the accidents of these treatments—it makes no mention of the pain suffered, or of the inflammatory œdema and suppuration of the scrotum.

It was with the hope of avoiding these complications that I was led, now more than two years ago, to try the plan of subcutaneous division of the veins by means of a platinum wire heated to a red heat by electricity. The procedure is, as you have seen, very simple. First, feel for the vas deferens, and grasp the veins in front of it, and nip in the scrotum with the left thumb and forefinger; transfix the scrotum at this spot between the duct and the veins with a narrow bistoury, and pass a needle armed with a platinum wire in the track of the knife; then return the needle through the same apertures, but this time in front of the veins between them and the skin. Of course, if the vas happen to be in front of the veins, as was the case in that of W. C., shown to-day, you modify the procedure a little. In this way you have the veins in a loop of the wire. It is better to make a puncture with a knife rather than merely to transfix with the needle, for the veins are looped up cleaner, there is not the same liability to include a portion of the skin in the noose as in the latter plan. Then attach the ends of the wire to the écraseur, and connect with the battery, using sufficient cells to cause a faint hissing noise; one cell of Grove's battery, or at most two, is sufficient. This step must be done deliberately; I have taken as long as five or six minutes over it. To protect the skin from burning, let some cold water trickle over it while the wire is burning its way through the veins. The after-treatment consists in perfect rest in bed for a few days, with the scrotum supported on a broad strip of strapping fixed across the front of the thighs. I have three times operated without anæsthesia, but the pain may be severe, and I prefer to have the patient under the influence of ether. After recovery from the anæsthesia there

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is an entire absence of pain, and this perfect freedom from spontaneous pain continues uninterrupted throughout the convalescence. A few hours after the operation the knobby feel of the varix is replaced by a soft even swelling, which lessens and hardens, and at the end of forty-eight hours is usually to be felt as a hard lump, about the size of a big marble. This is tender on pressure. By the end of a week it has lost its tenderness, and has shrunk to three-quarters its original size. The veins below can still be felt full, but not compressible, the blood in them has by that time coagulated, and they become smaller and firmer, until ultimately a small pea-like induration in front of the vas is all that is left, and even this may disappear, and no trace of the varix or operation be left, as in W. S.

I have employed this method eight times, each time the varix has been cured, the symptoms complained of relieved, and no mischief to the testicle has followed. These eight cases have shown me that there are three things to be carefully avoided. The first is hurry in the section of the veins; twice a few drops of blood have followed the escape of the wire, but only so little as to require nothing more than lint or cotton-wool to be placed over the wound; in neither instance was there any hæmatocele. The second is to operate well above the tunica vaginalis; in one of my cases acute hydrocele was lighted up, it quickly subsided under belladonna fomentations. The third is burning of the skin, leading to a small slough; although there is nothing of serious moment in this slough, it is of course best to avoid it, and if the skin is incised and kept cold and the loop of wire not brought too small it can generally be saved.

I can recommend you to practise this operation, first, because of its entire painlessness after the few moments of its actual performance, and, secondly, because it fulfils the physiological indications better than any other I know of. My cases at present are too few to prove by statistics that it is less dangerous to life than those operations I have mentioned, but they are sufficient to show that the operation is simple, effectual, and introduces no new danger, while it is obviously free from the sources of irritation common to other methods.

The section of the veins is completed at once; there is no foreign body liable to set up inflammation left in contact with the healing veins, which are allowed to remain at perfect rest, while their seared ends are becoming permanently closed. As you are aware, the closure of an open vessel by the hot wire or iron is usually considered a particularly safe plan. There is also no interference with the skin of the scrotum, as in Lee's operation; no compression of the scrotal vessels, no œdema.

The only other method that I should at all recommend to you is the use of the catgut ligature applied to the veins subcutaneously. I have had no experience in it, but it has been done with success. I think the heated wire is preferable, because the catgut ligature is rather uncertain in its action; it may soften very rapidly and then fail to occlude the vessels, or it may not soften at all and cut its way through the veins like an ordinary hempen or silk thread, or remain and subsequently light up inflammation. These accidents are only occasional, but we should none the less be on our guard against them, and give the preference to a plan of treatment which is free from them. In none of my eight cases has any slough separated from the veins; the eschar formed has been absorbed by the living tissues. I show you to-day four cases at varying periods after the operation illustrating their progress.

1. W. J., aged seventeen, a large left varicocele, which he had noticed for "several years," left testicle smaller than right, complained of dragging pains in scrotum and up to left loin. Operation, June 21, 1879; left hospital June 28th. A firm induration the size of a marble felt; not tender; veins below plugged.

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2. F. L., aged twenty-four, single, injured left testicle five years ago; first noticed varicocele three years ago, after an attack of clap, since then the pain and swelling had steadily increased in spite of wearing a suspender. No constipation; external piles for two years. Operation May 28th; left hospital June 8th. The induration is very hard, the size of a horse bean; veins below are firm and shrinking.

3. W. C., aged thirty, single, very large left varicocele, noticed suddenly in June, 1879, while bathing. Pain in scrotum and groin had increased of late; testicle smaller than right. Operation May 1st; left hospital May 7th; delayed on account of a slough of skin. Induration now small; veins below cannot be felt; testicle has regained its former size and is a little larger than right.

4. W. S., twenty-one, a small varicocele noticed some years; scrotum not lax; considerable pain; frequent seminal emissions and mental depression. Operation Sept. 29th; left hospital Oct. 9th. No trace of dilated veins or of the seat of the operation to be felt. All symptoms relieved.—*Lancet*, July 17, 1880.

Hospital Notes.

A Case in which One-third of the Cranium was Denuded by an Injury; recovery in fifteen days.

Eliza H——, a machinist, aged twenty-three years, was admitted into the Great Northern Hospital, under the care of Mr. SPENCER WATSON, on Feb. 5th, at 8 P. M., having thrown herself from a second-floor window (a height of about thirty feet) to escape from a fire. She seemed to have lost consciousness in the act of falling, but thought that she fell upon the body of another girl who had also precipitated herself from the same window. The whole of the posterior third of the scalp, from a line extending from the mastoid process on one side to the corresponding part on the other across the top of the head, was detached from the skull and hanging loose on the nape of the neck. It was reapplied, and the edges of the wound brought together by hare-lip pins and strapping, and carbolized oil lint applied as a dressing; the hair of the head was previously cut off close to the scalp. She passed a quiet night, the temperature next morning being 99° and the pulse 96.

On Feb. 10th she was restless during the night, and had great pain in the head. Temperature 102.6°; pulse 120. The dressings were removed and the hare-lip pins taken out. The whole of the scalp felt "boggy," but there was no distinct fluctuation. The face was puffed and œdematous. Charcoal and linseed poultices were applied, perchloride of iron was given in ten minim doses, and a calomel purge was administered. Next day the temperature was 98.6°, and the girl felt altogether better.

After this date the recovery was only interrupted by a small collection of pus under the scalp at one limited spot; it discharged itself, however, through the original wound, and by Feb. 20th the latter had almost healed. On the 6th of March the wound had completely healed.

Remarks.—The rapid recovery from such an extensive denudation of the cranium is the most interesting feature of this case. The young woman's very good general health must be taken into account, as giving her the best chance of recovery, but the antiseptic dressings must be credited with some part of the good result, and the absence of serious complications.—*Lancet*, June 26, 1880.

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MONTHLY ABSTRACT.

Anatomy and Physiology.

Origin of Blood-corpuscles.

A memoir by POUCHET which has recently appeared in the *Revue Scientifique* (and which has been translated in the current number of the *Quarterly Journal of Microscopical Science*), discusses the interesting subject of the mode of production of the red blood-corpuscles. It is not a little remarkable that the origin of the formed elements of the blood should still continue to be a matter of hypothesis, and that physiology is incapable of replying to the question, How after large losses of blood is its restoration effected? The present generation of practitioners are hardly aware of the quantity of blood that was taken from patients in acute disease by the physicians and surgeons of the past age. If works written in the early part of the present century are referred to, some surprising facts of this nature will be found. At the time when Sir W. Lawrence's treatise on the Venereal Diseases of the Eye was published—that is, in 1830—bleeding was the approved method of treating gonorrhœal ophthalmia; and amongst other cases he records in that work there is one of a pugilist, who was no doubt an athletic, freely living man, but who, having contracted gonorrhœal ophthalmia, was admitted into St. Bartholomew's Hospital, and from whom the surprising quantity of one hundred and fifty-two ounces, or nearly eight pints, reckoning twenty ounces to the pint, were abstracted by venesection, besides the application of thirty-two leeches, in the short space of one week. Nor was this a solitary case, for several others are recorded in which nearly equal amounts were taken. It is worth noting that the pugilist recovered with perfect vision. In the case of women, again, enormous losses of blood are often sustained in menorrhagia, which are yet quickly restored under favourable circumstances. Rindfleisch has made an estimate of the rapidity with which the reproduction of new corpuscles must take place in ordinary intermenstrual periods, and calculates that half a centigramme of blood is produced every minute, which means that about one hundred and seventy-five millions of red blood-corpuscles are produced every minute. When thus reduced to figures, it seems extraordinary that no answer can be given to the questions how and where this enormous proliferation is effected.

Is the process of renewal performed in some obscure organ whose function has been overlooked—the suprarenal capsules or thymus or thyroid gland, for example,—or is it that the corpuscles, similar as they may all appear to our methods of investigation, are derived from many different sources, each set having its own special and definite functions, and differing in structure, purpose, and destination from all the rest? The results of modern physiological research seem to point in the latter direction. Not many years ago the corpuscles were believed to be exclusively derived from the chyle, and Hewson's observations, to which Mr. Gulliver did good service in calling attention, were essentially in favour of the mesenteric glands being the bed for the production of the lymph corpuscles, the nuclei of which acquired colour and became the red corpuscles. More recently, however, the claims of many other parts of the body to be hæmatopoietic organs have been with more or less probability advanced, and the share of the spleen, the liver, the muscles, the cancellous tissue of the bones, and the peritoneum, in

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the process of blood formation, has been urged by different experimenters. Objections may, however, be raised to nearly every hypothesis that attributes the origin of the hæmatids to a single source. Even in the case of the lymphatic glands it may fairly be urged that they cannot be exclusively concerned in the generation of the red corpuscles, since such glands are wholly absent in fishes; and the same objection may be taken to the view of Neumann and Bizzozero in favour of the cancellous tissue of the bones. And granting even that they are formed here, by what means do they traverse the walls of the capillaries, and how are they impelled into the current of the circulation? The fact that the spleen is absent in some animals, as the lamprey, and may be removed even in the higher animals and man without rendering them anæmic, disposes of the idea that it does more than aid in the genesis of blood-corpuscles, and, as Pouchet remarks, little weight can be attached to the statements that a new function can be vicariously performed by other organs of a totally different structure.

In regard to the derivation of hæmatids from the lymphoid patches of the mesentery, these regions can evidently play but a small part in the production of new corpuscles. Ranvier has indeed observed hæmatids originating in the midst of vessel-forming tissue. But if this view be correct, the repair of lost blood would be necessarily associated with the production of new capillaries, which has not been demonstrated. The view which is held by M. Pouchet himself, that the real origin of the blood-corpuscles is to be looked for in the hæmatoblasts or minuter form of globules, has been described by Hayem, and long before him by Donné, under the name of globulins. These bodies probably originate in the blood plasma, being primarily formed of albumen, to which subsequently the crystalline substance hæmoglobin is added, causing a great increase in the volume of the globulets. In the blood of animals undergoing repair after large hemorrhages, an extraordinary number of hæmatoblasts or globulets may be observed. These rapidly enlarge in all directions, lose their granular aspect, and become hyaline, and finally assume the discoid form and the yellowish tint of the full-formed corpuscle. The hæmatids are on this view neither cells nor the descendants of cells, but may, like Topsy, be said to have simply "growed." It would seem that the generation of the red corpuscles is still a dark corner in physiology, and some further observations are still requisite.—*Lancet*, July 31, 1880.

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The Presence of Bile in the Lymph and Blood when diverted from its natural channels of Elimination.

Fleichl was the first to upset the opinion generally accepted up to his time—that whenever any obstruction whatsoever in the bile duct prevented the elimination of the bile by its proper channels, it immediately made its way into the blood in the substance of the liver itself. After ligature of the bile duct, he found the biliary acids to be present in the thoracic duct before he could detect them in the blood; hence he inferred that the bile made its way into the blood, not directly, but through the lymphatic system. Kufferath has verified and extended these views. First he repeated Fleichl's experiments. In eight dogs he tied the bile duct and collected the lymph as it flowed from the thoracic duct. In each case he found the biliary acids present. In two cases only were these acids found in the blood, and in these a post-mortem examination showed that a bifurcating branch of the thoracic duct had escaped ligature. In his second set of experiments, he tied both the biliary duct and the thoracic duct. Three hours afterwards he analyzed the blood. In three out of four cases there was no trace of the hepatic secretion in the blood. In the fourth case, where such was detected, the autopsy showed a second thoracic duct which was unligatured. Hence,

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he concluded that as there are no biliary acids in the blood three hours after the simultaneous ligature of the bile and thoracic ducts, therefore the bile enters into the blood *exclusively* through the lymphatic vessels. The lymphatics in the liver are stained yellow, so that it is not the biliary acids alone, but the bile itself, which takes this course.—*Dublin Med. Journal*, July, 1880, from *Journ. de Méd., de Chir., et de Pharm. de Bruxelle*, Juillet, 1879.

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Indican in Health and Disease.

Dr. H. N. HEINEMAN, Assistant in the Laboratory of the Alumni Association of the College of Physicians and Surgeons, New York, contributes to the *Archives of Medicine*, August, 1880, an interesting paper on this subject, of which the following are his conclusions:—

Indican is only exceptionally absent in health. It may vary in quantity in the healthy individual, generally being small in amount, but occasionally as marked as in disease.

Certain diseased conditions tend to produce a decided increase.

The most marked increase is obtained in those diseases which affect the alimentary canal, and more especially the small intestines, whether they be local or general diseases with local lesion. Among these are dyspepsia, gastro-duodenitis, chronic constipation, intussusception, diarrhœa, peritonitis, cholera, lead poisoning, and typhoid fever.

In diseases causing inanition, as phthisis and other prolonged suppurative diseases, as caries and necrosis, marked increase is found.

Among the diseases producing altered blood states, some, such as malaria, syphilis, rheumatism and alcoholism, progressive anæmia and chlorosis, although *always* causing the most profound blood-changes, *do not always* effect a decided increase. This is a singular exception, to which Senator has called attention, but the investigations are not yet sufficiently numerous to draw conclusions.

Certain nervous disorders, as insanity, epilepsy, Addison's disease, progressive muscular atrophy, and paraplegia, cause marked increase.

Disordered function of the kidneys, as in chronic Bright's disease, causes marked increase.

Internal malignant tumors, as carcinomata and sarcomata, cause increase most markedly and constantly of all.

The explanation of the cause of the increase in various diseases is not as yet adequate to satisfy all cases.

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On a Filaria reported to have come from a Man.

Prof. JOSEPH LEIDY describes (*Proceedings of Academy of Natural Sciences of Philadelphia*, March 2, 1880) a large thread-worm, which had been submitted to his examination by Dr. J. J. Woodward, U. S. A. It was recently presented to the Army Medical Museum, at Washington, by Dr. C. L. Garnett, of Buffalo, Putnam Co., West Virginia. Accompanying the specimen is the copy of a letter from Dr. Garnett to Dr. Woodward, from which the following is an abstract: "During the winter of 1876 a man, a common labourer, aged about fifty, presented himself to me for treatment, having a gleety discharge from the urethra, with a burning sensation during and after micturition. Previously he had been treated for gonorrhœa, and I prescribed accordingly. The patient not improving, applied to other practitioners. In April, 1878, he came to me with a round, vivid-red worm, twenty-six inches in length (the specimen you now possess) which was alive and very active in its movements, instantly coiling up like a watch-spring on being touched. Having no work on helminthology for reference,

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the only description I found which appeared to answer to the worm was that of *Strongylus gigas*, in Niemeyer, vol. ii. p. 47. The patient is an illiterate man, with no motive for deception. He informed me that he discovered the worm protruding from his penis and drew it out without pain or difficulty. He was in much agitation and alarm about the occurrence, fearing, as he said, that "there might be more behind that one." For a few days previous to its passage, his urine was of a milky hue and some time subsequently of a yellow cast and slightly tinged with blood and mingled with mucus. The man is truthful, and no doubt exists in my mind or in the minds of his neighbours as to the correctness of his statements. I regret exceedingly that I did not appreciate the scientific interest of the subject, and send you the specimen in a fresh state, but the busy routine of a country practitioner's life leaves no time for the study of other than subjects of practical value in one's every-day experience."

The worm preserved in alcohol is much coiled, of a clay colour, and opaque, or only feebly translucent, but more so at the head end. If it is really a human parasite, it appears to differ from all those heretofore described, and also seems different from other known parasites. It certainly is neither *Eustrongylus gigas*, nor is it the Guinea-worm, *Filaria medinensis*, though nearly related to this. Its characters are as follows: Body long, restiform, nearly uniformly cylindrical, smooth, shining, elastic, tough, without evident annulation other than transverse wrinkling, with the anterior extremity evenly tapering in the continuous head, the end of which is rounded and smooth or without appendages of any kind; the posterior extremity not tapering, with the caudal end incurved, bluntly rounded, without appendages, and imperforate or without evident anal or genital aperture. Mouth a terminal pore without lips, papillæ, or armature of any kind. Pharynx cylindrical, and opening into a straight cylindrical intestine, apparently ending in a blind pouch. Generative organs unobserved. Length of worm, 26 inches; greatest thickness, 1.5 mm. Width of head just behind the rounded extremity, 0.375 mm.; opposite the commencement of the intestine, 0.625 mm.; at the middle, 1.5 mm.; at the incurved caudal extremity, 1.5 mm. Length of œsophagus, 1.125.

Fig. 1. Fig. 2.

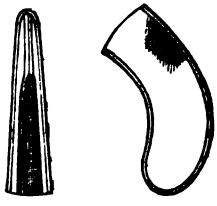

Fig. 1.—Cephalic extremity.

Fig. 2.—Caudal extremity; the diagonal marking indicates the crossing of the fibres seen in the integument. Five diameters.

The worm, of exceedingly simple character, is clearly neither a *Gordius* nor a *Mermis*, and, though apparently more nearly allied to *Filaria*, a more intimate knowledge of its structure may prove it to be different. For the present it was proposed to distinguish it with the name of FILARIA RESTIFORMIS.

Materia Medica and Therapeutics.

Recent Investigations on the Action of Drugs.

An interesting contribution to the facts relating to the antagonism between the actions of drugs has been supplied by PANTELEJEFF with regard to two drugs in common use—quinine and atropine. The salts employed were the chloride of quinine and the sulphate of atropine, and the experiments were made upon dogs, rabbits, and frogs. An injection of quinine beneath the skin of a frog in summer arrests the heart in diastole; but a subsequent subcutaneous

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injection of atropine causes it at once to resume its pulsation. The appearance of the heart, when its action is arrested by quinine, is as if the blood-pressure on heart was greater than the cardiac walls could contract upon. If atropine was injected first, so as to cause an acceleration, this was arrested by the quinine. With winter frogs the effect of the quinine was more frequently to cause a gradual retardation in the action of the heart, which was only arrested, after a time, with loss of reflex action, and death. The injection of atropine did not prevent this, but retarded the heart still more. Microscopic examination of the vessels of the web of the foot showed that the quinine caused a narrowing of the small arteries to one-half of their previous calibre, while atropine dilated the vessels. In rabbits it was found that when the heart's action was arrested by quinine, atropine caused it again to beat, and the auricles began to contract before the ventricles. In both dogs and rabbits the blood-pressure in the carotid rose after the injection of quinine, when the pulse was rendered less frequent. It was found that immediately after the injection the blood-pressure suddenly falls, but after a few seconds it rises to a higher degree than before the injection. In small doses the pulse is often accelerated during the increased pressure, but with large doses the pulse is retarded from the beginning. If repeated injections are made, every injection causes first a sudden fall of pressure, with retardation of the pulse; then the pressure rises, to fall again after a new injection. This initial fall in the blood-pressure is probably due to a sudden contraction of the vessels of the lungs, hindering the passage of the blood into the left ventricle and the aorta. The cardiac contractions become at the same time less frequent, but stronger. The arteries of the aortic system then contract, and cause an increase in the blood-pressure, and at the same time an acceleration of the pulse. Large doses have a direct influence on the heart, so that, later, the cardiac action becomes retarded, and the blood-pressure falls. The pneumogastrics remain excitable by electricity, but their division exercises no marked influence upon the pulse, especially when the respiration is retarded by the action of quinine. Subsequent injection of atropine accelerates the pulse, even when the pneumogastrics have been divided. In only one observation upon dogs was an arrest of the heart by quinine prevented by atropine. The increase of pressure caused by quinine was disturbed and retarded by the preceding injection of atropine. Direct application to the heart of frogs showed that not only can quinine arrest the action of the heart, but that it can also, under certain circumstances, act as a stimulant to excite it to action, and the effect depends upon the condition in which it is.

The acute effects produced by large doses of atropine have often been studied, but the symptoms which are produced by such doses as are toxic only when long continued have been little investigated. They have, however, lately occupied the attention of Dr. von Anrep in the physiological laboratory of Würzburg. If a dose of one to three milligrammes is administered to a dog by hypodermic injection, the slight symptoms which it causes—mydriasis, etc.—soon pass away. If the injection, however, is repeated, the effects gradually become less intense. After the fifth injection the slight modifications of the cutaneous sensibility and the slight muscular tremors which are caused by the first doses cease to occur, the slight acceleration of the action of the heart is less marked, and the animal maintains its usual health in spite of the continued doses. Chronic poisoning with larger doses gives more persistent results. A single dose of one-twentieth of a gramme causes symptoms of acute poisoning—muscular spasm, vomiting, thirst, and loss of appetite, transient acceleration of the pulse, extreme dilatation of the pupil, quickened respiration, and a slight elevation of temperature. If this dose is repeated on six or ten successive days the symptoms become slighter after each injection, with the exception of the dilatation of the pupil, the accele-

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ration of the action of the heart, and the diminution in the saliva. There is no trace of muscular spasm or tremor. After a long time the heart becomes weakened, its contractions are less frequent, being only one-half of the normal, and the effect of each new dose is to cause only a slight acceleration. From these experiments it appears that a remarkable tolerance is established to the alkaloid, even in considerable doses, so that after a time the animals are unaffected by doses which would have been fatal at the outset of the experiments; but this tolerance is least in the case of those organs and structures which are normally the most impressionable—namely, the pupil and the pneumogastric nerve. If, after several weeks' poisoning, the administration is stopped, the heart returns to the normal condition in from three to five days. It is suggested that the *modus operandi* of atropine on the heart is as follows: The first doses act exclusively upon the pneumogastrics; the excito-motor ganglia and the muscular tissue of the heart resist the action of the poison, and are only affected by repeated doses: hence the persistence of the retardation which succeeds the initial acceleration.

The same investigator has studied the action of cocaine, the active principle of the cocoa-leaves. He draws the conclusion that cold-blooded animals are more sensitive to its action than warm-blooded animals. Its chief action appears to be upon the nerve-centres. In frogs, it first paralyzes the terminations of the sensitive nerves, and afterwards abolishes reflex action. In the mammalia, it first stimulates all the nerve-centres, and especially the psycho-motor centres. This general excitation is followed by a slight enfeeblement. Small doses increase reflex action; large doses do not paralyze it entirely, as in the case of the frog. Respiration is quickened, except by fatal doses. In frogs the power of the heart is lessened, so as to lead to arrest in diastole. In mammalia the heart's action is accelerated, and strong doses are necessary to cause a retardation. The blood-pressure is increased by the stimulation of the vaso-motor centres; large doses should naturally have the opposite action, and lower the blood-pressure. The inhibitory nerves of the heart are readily paralyzed by medium doses. The striated muscles are not directly influenced by cocaine. The pupil is dilated by it, and as powerfully by the internal use of the drug as by its instillation into the eye. The peristaltic movements of the intestine are accelerated. Acute poisoning by cocaine causes muscular spasms, and, in consequence, an elevation of the rectal temperature; when there are no convulsions the rectal temperature falls. The secretion of the several mucous membranes is lessened. Certain motor disturbances can only be explained by the assumption that cocaine has an action upon the semicircular canals; the symptoms suggest that the drug modifies the pressure of the endolymph in the internal ear, and thus effects a stimulation of the terminal filaments of the auditory nerve. Death appears to result from asphyxia, caused by respiratory paralysis, the heart continuing to beat for some minutes after apparent death.

The action of cyanogen has been the subject of an experimental study by R. Bunge, at Dorpadt, with frogs. He was unable to observe any convulsive phenomena, and the paralyzing effect was produced slowly, even with large doses. If the animals were examined after a few minutes' exposure to the action of the gas, the cutaneous sensibility was found to be lessened or abolished, and their movements were considerably lessened. During the first few minutes of the exposure the animals were restless from the local irritation, their movements then became slower and less frequent, the respiratory and cardiac action ceased, and rigor mortis set in with great rapidity. The latter, indeed, sometimes commenced in the hind legs while respiration was still going on. Post-mortem examination showed the heart to be dilated and filled with pale blood, in which the spectroscope revealed the absorption bands of oxyhæmoglobin. If the blood-

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supply to a limb was cut off, the rigor mortis appeared in those muscles somewhat later than elsewhere. If, however, a limb was entirely separated and exposed to the action of cyanogen gas, the cadaveric rigidity rapidly appeared in it. If the heart was exposed, the ventricular contractions were seen to become less frequent and more feeble, and the irritability of the cardiac muscle to mechanical stimuli was soon lost. This was, however, preceded by a transient acceleration of the frequency of the heart's action, which the experimenter refers to stimulation of the cardiac ganglia, or muscle substance. That it is not due to any action on the vagi is shown by the fact that, if muscarin is first applied so as to arrest the action of the heart, the stimulating effect of the cyanogen can still be observed. The chief difference between the action of cyanogen and hydrocyanic acid consists in the persistence of the respiratory movements after the heart's action has ceased, and in the early occurrence of the rigor mortis. In the mammalia, cats, rabbits, and mice, the cyanogen gas, whether inhaled or injected in watery solution into the blood, causes dyspnœa, and the animals die from respiratory paralysis, just as after poisoning with hydrocyanic acid. The blood-pressure falls, and the heart's contractions are at first rendered more frequent, but in the later stage are retarded. They continue after respiration has ceased. The toxic effect of cyanogen is less violent than that of hydrocyanic acid, .02 grm. being required to produce the same effect as .004 grm. of the latter.—*Lancet*, July 31, 1880.

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Therapeutic Uses of Pilocarpin.

PICK (*Vierteljahres. für Derm. und Syph.*, 1880, Heft 1) has made a trial of pilocarpin in various forms of skin diseases. In most cases, a dose of one centigramme given internally twice daily stimulated first the secretion of saliva, and four or five minutes later that of sweat. In all the cases in which decided effects were produced, the action became less powerful after three or four weeks, so that, in order to secure continuance of effect, the dose had to be increased. If it were discontinued altogether for eight days, the same dose, on being again given, produced the original effects. When pilocarpin had been taken for some time, the skin became softer and more yielding, and the sebaceous secretion more abundant. No ill effects were observed. In prurigo (Hebra) it stimulated the secretion of sweat on the affected skin after a few weeks, and speedily alleviated the disease. In periods varying from 48 to 105 days the skin became healthy. Relapses supervened, but the diseased condition was not so intense as that previously existing, and was speedily relieved by the renewed exhibition of the drug. Against psoriasis, even in doubled doses, it proves valueless. In the acute stage of eczema it was injurious. In the chronic stage, with infiltration, it was, on the contrary, beneficial. Three cases of hemorrhoidal eczema were cured by it after they had resisted other treatment for years. Two cases of pruritus senilis were cured by it; in one it failed; in a case of pruritus vulvæ, following delivery, recovery was complete in three weeks. Recovery also followed its use in urticaria chronica. Encouragingly, but less decisively, the author speaks of its use in alopecia with pityriasis.—*London Med. Record*, July 15, 1880.

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Method of Masking the Odour of Iodoform.

Tannin, which was recommended by Moleschott as a means of hiding the unpleasant smell of iodoform has not been wholly successful. Ether, which conceals the odour, on account of its great volatility is only useful for a short time, whilst oil of peppermint has not answered its expectations. Dr. LINDEMANN of Münster contributes to the *Allg. Med. Centralzeitung* an account of experi-

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ments which he has made with several preparations in regard to this subject. The conclusion at which he has arrived is that the balsam of Peru completely masks the smell of iodoform, and renders it imperceptible to the most delicately organized. He mixes two parts of the balsam with one part of iodoform, and recommends vaselin as being the best medium for an unguent; it may also be employed in an aqueous solution. The following useful formulæ are subjoined: ℞. Iodoform. 1 gram., bals. peruv. 2 gram., vaselin. 8 gram. M. f. ungt. ℞. Iodoform. 1 gram., bals. peruv. 3 gram., spir. vin. rectif. or glycerin. 12 gram. In regard to the preparation of these prescriptions, the author recommends that the iodoform should first be mixed with the balsam, and that the vehicle should afterwards be added.—*Practitioner*, July, 1880, from *Schweiz. Correspbl.* 20, 1879.

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The Use of Quinia in Connection with Nervous Sedatives.

At the late meeting of the American Neurological Association Dr. LANDON CARTER GRAY, of Brooklyn, reported that great relief was to be expected from the bromides in robust patients; but not to the same extent in the case of the weak and anæmic. His own experience had convinced him that there was considerable danger in using them freely in certain instances, and he had met with one case in which a fatal result was thus produced. He was a firm believer in their efficacy in epilepsy, as a general rule; but at the same time he felt that under some circumstances they should be used, if at all, only with extreme caution. For the past two years he had been in the habit of prescribing quinine in connection with the bromides, and he could but express himself as more than satisfied with the results obtained by this combination. At first he had employed it with timidity and in very small doses, as he feared, from what he had been taught, that it might perhaps interfere with their action, and only aggravate the trouble present; but afterwards he had used it much more freely, and always with very beneficial effects. His practice now was to give first a sufficient quantity of the bromides to produce bromism, and then two or three grains of quinine three times a day in addition. He had met with a few cases in which quinine was not well tolerated, but as a rule such patients were able to stand the full sedation of the bromides; while in some instances he had deemed it advisable to stimulate the system with the quinine before commencing the use of the bromides, on account of the weak condition of the patient. All his experience went to show that quinine actually increased the effect of the bromides, hyoscyamin, and belladonna, and he had also found that all these agents were much better borne by the system, as well as more efficient in their action, when administered in combination with quinine than when the latter was omitted.

The happy effect of the quinine with hyoscyamin was well shown in a case of puerperal mania which he had seen in consultation. When hyoscyamin was given alone it seemed to be of no service; but when quinine was added to it, although there was no malarial complication in the case, its use was followed by the most happy results.—*Bost. Med. and Surg. Journ.*, July 8, 1880.

Medicine.

Tuberculosis as an Infectious Disease.

Dr. L. G. BRYHN (*Norsk Magaz. für Lägevidensk* and *Nordiskt Medicinskt Arkiv*, Band xii.) relates some cases in proof of the infectious character of pulmonary tuberculosis, of which he has become convinced by observations made

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during a practice of thirty years' duration. A phthisical man married a woman of healthy family; the man died, the woman became phthisical, as did also her sister, who resided in the house during the man's illness. The latter married a man of great strength, of sound family; he, too, was attacked, and also his sister's daughter, who resided some time in the house. One of their children died of tubercular meningitis, two had signs of pulmonary tubercle, one was free. The girl who served the first man's wife became tuberculous, went home, and died. Her sister was infected by her; both their parents had lived to a great age, and tuberculosis had never before shown itself in the family.—*Lond. Med. Record*, July 15, 1880.

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The Transmissibility of Tuberculosis by Milk.

M. PUECH having recognized the existence of phthisis in a cow which was sold for killing, and yet continued to yield three or four litres of milk daily, fed with the milk two sucking pigs and two rabbits. He has communicated the following results to the Académie des Sciences. The animals, when killed, showed tuberculous lesions in strict proportion to the length of time the milk had been administered. These facts, according to M. Puech, show that phthisis is transmissible by milk direct from the cow. It remains to be determined whether this liquid loses its contagious properties when it is boiled. M. Bouley afterwards submitted to the Academy a jar containing fragments of the lung, liver, spleen, the phrenic centre of the diaphragm, and the bronchial and submaxillary glands of a pig, five months old, killed sixty-seven days after an inoculation of two cubic centimetres of meat juice, pressed with an hydraulic press out of a fragment of the ischio-tibial muscles of the tuberculous cow mentioned in M. Puech's note. This experiment was made at Toulouse by M. Toussaint of the Veterinary College. Examination of the fragments in the jar showed tuberculous lesions in a very advanced condition. M. Bouley said that these facts, which demonstrate beyond doubt the transmission of tuberculosis from the cow by the alimentary use of unboiled milk and the inoculation of the juice of uncooked meat, should not pass unnoted. In addition, they are not unique, since in Germany, experiments of the same kind have been made, and have yielded identical results, to which, however, it does not appear that sufficient importance has been attached. The danger is, according to M. Bouley, indubitably a real one; and it is well that the public should be warned of it, so that they may take proper precautions, especially as the use of raw meat is now often prescribed as a remedy for anæmic disorders. The outcome of these facts is, that inspection in regard to phthisis occurring in cows should be extremely strict in the slaughter-houses, and that it would be prudent to make use of boiled milk, especially for the feeding of infants, when the source whence it is derived is not beyond suspicion. Cooking, which destroys cellular and parasitic life, should render both milk and meat harmless.—*Brit. Med. Journal*, July 31, 1880.

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Treatment of Infantile Paralysis.

DALLY, in this exceedingly able and instructive paper (*Journal de Thérapeutique*, March 10th), prefaces his remarks by a definition of the disease and a description of the present views as to its morbid anatomy. This he does, since great misapprehension has existed by confounding several very different diseases, some curable, others not, under the title of infantile paralysis, and thereby he makes it quite clear to what ailment he refers. The essential paralysis of children is clinically characterized by a sudden onset without prodromata, generally feverishness and of short duration; paralysis rapidly supervenes, and, in twelve or twenty-four hours, is usually complete. After the first week movements re-

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appear here and there, but often some limbs or some scattered muscles remain paralyzed and atrophied, such paralysis becoming the cause of very various deformities. Dr. Dally quotes from M. Buchheim's article on the spinal cord in the *Dictionnaire Encyclopédique des Sciences Médicales*, the description of the morbid anatomy of this affection. Referring to the various observations of Laborde, Cornil, Prevost, Vulpian, Lockhart Clarke, Charcot, Geoffrey, Roger, Damaschino, Parrot, and Jeffrey, extending from 1861 to 1871, he proceeds to sum up the results as being sclerosis, or simple atrophy of the antero-lateral columns of the cord, and granular disintegration of the large cells in the anterior cornea, the latter being a constant lesion The question as to whether the degeneration of the nerve-cells is secondary to the pressure caused by sclerosis of the spinal cord, or whether the atrophy of the nerve-elements is primary, he leaves unanswered; indicating that Charcot and Vulpian support the latter view, as Roger and Damaschino incline towards the former. The sudden onset, the diminished faradaic contractility, and the rapid muscular atrophy, all point to a primary affection of the nerve-cells, which alone may be sometimes found affected. Speaking of the cause of the disease, Dr. Dally points out that no diathesis, or hereditary predisposition, nor the usual accompaniments of growth, will account for it, but refers to a case that came within his own knowledge, and which he has previously placed on record, of three children in one family who were attacked, two in one day, and the other within twenty-four hours, that almost justified the suspicion of some poison being the cause. The cases were seen by Trousseau, Duchenne, and others, and no doubt as to the nature of the malady existed. Coming to the main purport of the paper, the writer, following Laborde and Duchenne, divides the treatment into three periods: 1. That for the acute phenomena of the onset; 2. For the paralysis and atrophy; 3. For the subsequent deformities. In respect to the first stage, Dr. Dally confesses to having had no experience of it; but assuming that a stage of vascular congestion precedes the destructive state, he agrees with the treatment recommended by Duchenne, Laborde, Simon, and Bouchut, and which may be summed up as means for withdrawing the blood from the vertebral region by the ventral decubitus, manipulation, sinapisms, etc., to the calf, and intestinal derivatives, especially calomel. The diet should be milk. Following the recommendation of Bouchut to employ the constant current, as Duchenne recommends the faradaic, he would only wait for the cessation of the fever to apply them to the affected muscles. The second period is essentially that of repair, spontaneously in the greater number of cases the disease limits itself when it is not completely cured. The problem is to prevent the sclerosis of the antero-lateral columns, which is secondary to the affection of the nerve-cells. Duchenne states that the application of local faradization at the commencement of the paralysis would cut short the duration of the paralysis, diminish, if not prevent, the atrophy of the muscles, and, perhaps, prevent their fatty degeneration. Keeping this dictum in view, Dr. Dally followed out the treatment in a dozen cases over periods of three weeks to three years with almost always the same results, viz., the re-establishing to a degree of the locomotive power, the prevention of deformities, and the arrest of the progressive atrophy. In one case, a perfect cure followed a complete paralysis, though the atrophy was less marked than usual. A further advantage is the prevention of atrophy of the bones, whereby, should the muscles eventually recover, the deformity of the limb is prevented. It is in reference to the treatment of the subsequent deformities that Dr. Dally makes some valuable remarks. He is rightly very severe upon the assertion too often made, that "the case will improve with age," a remark that, "however consoling it may be for the moment, is terribly false." "No improvement," he goes on to say, "follows age, nor the appear-

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ance of the menses, nor the changes of the moon, unless a happy chance or science interfere." He regards, also, as a most serious error, the indiscriminate use of gymnastics and exercise, as is often advised, since the deformity is due to the disturbance of the normal antagonism of the muscles of the limb one against the other by the paralysis of certain of them, leaving the others to exert their full force unneutralized. By exercise and gymnastics, this want of equilibrium is intensified and the deformity increased; since it is the healthy muscles alone that can participate in the exercise, the more they are developed by use the more do they deform the limb. The first rule, therefore, when inequalities in the limbs exist, is to supply the deficiencies by mechanical means; and the second is to limit the exercise and galvanism to the muscle or group of muscles which are paralyzed. The application of this rule will obviously vary with the part affected. Exercise is only applicable to those muscles which retain some contractility, and may be applied by directing the patient to perform the movement as far as he is able, resistance to such movement being made by the practitioner; or the latter may himself perform the movement of the limb, the patient being told to oppose such action as much as he can. The writer insists upon the persistent employment of the remedies, and warns against the expectation of rapid improvement, and compares the gradual advance made to the growth of the intellect by education. Galvanism the author regards as of most value for its direct and indirect trophic action, not so much on the separate organs as on the whole region. How far it alone is of value, he cannot say, since he has always employed it in conjunction with other remedies.—*London Med. Record*, July 15, 1880.

Secondary Degeneration of the Spinal Cord.

Amongst the contributions continually being made to the science of medicine, not the least important are the courses of lectures annually delivered by Professor CHARCOT at Paris, and uniformly published in the *Progrès Médical*. Of these there are two series: one being given at the École de Médecine by Dr. Charcot in his capacity of Professor of Pathological Anatomy to the Faculty; the other at the Hospice de la Salpêtrière in his capacity of Physician to that institution; and whether he be treating essentially of the anatomical side of disease, as in the former course, or of the clinical, as in the latter, Professor Charcot generally succeeds in introducing new and striking observations into his teaching, and in rendering his lectures interesting and suggestive, not only for his immediate audience, but also for the profession at large. The plan which M. Charcot adopts for his systematic course at the École de Médecine is each year to select some one branch of pathology, and to follow it up closely, rather than to extend his range over a wider area at the cost of thoroughness; and last year his choice fell upon the pathological anatomy of the so-called "systematic" lesions of the spinal cord. By the term "systematic" he means those lesions which, though extending throughout the greater part of the length of the cord, confine themselves more or less accurately to one region in its transverse section. Ever since careful microscopical examinations of diseased spinal cords have been made, it has been recognized that there is a strong tendency for morbid conditions to affect it in a curiously partial manner; that a lesion of one of the white columns, or of one horn of gray matter, tends to spread, not by involving the neighbouring white substance of other columns or other contiguous regions of gray matter, but by advancing along the column or horn of gray matter first attacked, until perhaps this portion of the cord is more or less affected throughout the whole of its extent. Familiar instances of this fact are to be found in the affection of the posterior columns seen in cases of locomotor ataxy, and of the anterior horns in infantile paralysis and progressive muscular atrophy.

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This regional circumscription of morbid processes in the spinal cord is of great interest, not only from the pathological but from the physiological point of view. As was remarked by Professor Charcot at the commencement of his course, the study of the normal cord had done comparatively little to aid physiologists in elucidating the problems relating to its functions. The landmarks by which anatomists could divide it into separate regions are too few to be of much practical service; collections of nerve-fibres having widely different functions are tied together into a compact whole incapable of anatomical subdivision; and the organ is too small and too sensitive to allow of anything more than rough experiments being made by physiologists. Owing, however, to the tendency of various diseases of the spinal cord to pick out certain functional regions and to confine themselves mainly to these regions, it has become possible to arrive at much more accurate conclusions regarding the functions of different parts of the cord than had previously been the case; and there can be no doubt that the next few years will result in the discovery of many new facts to add to those which have already come to light.

One of the most interesting facts to which Professor Charcot called special attention in his lectures, was the existence of certain bundles of fibres in the antero-lateral columns, which are peculiarly liable to undergo secondary degeneration in connection with lesions involving the motor regions of the cerebral hemispheres. This secondary degeneration is seen in many cases of old-standing hemiplegia, and it affects two separate tracts situated on opposite sides of the spinal cord; for instance, a patient, who has suffered from left hemiplegia, the result of some lesion in the motor tract of the right cerebral hemisphere, will be found to have secondary degeneration of a band of fibres in the right half of the spinal cord forming part of the antero-lateral column, and lying close to the anterior median fissure; and of another band of fibres in the left half of the cord, also forming part of the antero-lateral column, but situated in its posterior part. These bands are known as the "direct" and the "crossed pyramidal tracts" respectively. They differ from other portions of the white matter of the spinal cord, in being directly connected with the surface of the brain. This connection has been proved in two ways; first, by the fact that at the time of birth, when the rest of the spinal cord has arrived at a high degree of development, but the brain is still in a comparatively early stage, these particular bundles in the cord correspond strictly in their degree of development to that seen in the brain; they have not arrived at their proper relative size, and the nerve-fibres of which they are composed have not yet received their sheath of medullary substance. The second proof lies in the onset of the secondary degeneration above described. In both instances it is possible to trace the course of these fibres with fair accuracy. After passing up the cord to the medulla oblongata, they form the anterior pyramid of the body, the "crossed" band by its decussation giving rise to the well-known decussation of the anterior pyramids; thence they can be traced through the pons Varolii and crus cerebri to the posterior half of the internal capsule, by which they pass to the motor region of the cortex in the neighbourhood of the fissure of Rolando. They thus constitute a series of commissural fibres passing directly from the surface of the brain to the spinal cord, without communicating in their passage with any of the large ganglionic masses at the base of the brain. Any lesion of the brain which affects either those portions of the cortex from which they arise, or those portions of the internal capsule, of the crus cerebri, or of the pons in which they lie, will give rise to secondary degeneration of these tracts. On the other hand, no lesion of the large ganglia, of the anterior half of the internal capsule, or of any other portion of the cortex than that near the fissure of Rolando, will cause any change in these tracts.

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The central origin and the course of the fibres composing the pyramidal tracts having thus satisfactorily been determined, it still remains to trace them to their peripheral destination. This has proved less easy than the former task. Only two solutions were at all probable; the one being that the fibres pass straight into the anterior roots of the nerves, and the other that they pass into the gray matter and become directly connected with the cells of the anterior horns, which would thus act as intermediary agents between them and the nerve-roots. Two facts oppose the first hypothesis. In the first place, the anterior roots are at birth highly developed, at which period the pyramidal tracts, as before stated, are in an embryonic condition. This does not seem as though the two sets of fibres can be directly continuous. In the second place, in cases where degeneration has become exceedingly marked in the pyramidal tracts, it is very rare to find any degeneration of the anterior roots of the nerves. On the other hand, some recent observations made by Professor Charcot and others tend to prove the direct connection of the fibres of the pyramidal tract with the large cells of the anterior horns. It is a well-known fact that these cells maintain the nutrition of the muscles; and as these cells almost always remain healthy in cases of hemiplegia, it is very rare to find marked degeneration of the paralyzed muscles in such cases. In certain instances, however, Charcot has seen rapid wasting of muscles on the paralyzed side supervene in patients suffering from hemiplegia, and in whom the presence of secondary descending degeneration had been indicated by rigidity of the paralyzed limbs, the symptoms most commonly seen in such cases. In these instances, he has invariably found after death that the degeneration involved the anterior horns in addition to the usual pyramidal tracts; and though he has not found it easy in practice to trace degenerated fibres from the pyramidal tracts to the cells of the anterior horn, he feels justified in assuming that the connection exists, and that the cell-degeneration is directly due to an advance of the retrograde change from the pyramidal fibres. Thus it has been possible to trace a fasciculus of nerve-fibres from its central connection with the cortex of the brain to its peripheral distribution in the muscles.

There is one other point of interest to which Professor Charcot called attention in connection with the pyramidal tracts. It has long been known that only a portion of the fibres forming the anterior pyramid in the medulla oblongata decussate, though it has generally been found that by far the larger proportion of the fibres do so. Some little time ago, Flechsig, to whose researches much of the information contained in Professor Charcot's lectures is due, published a series of observations on the anterior medullary pyramids. He ascertained that the decussation is liable to great variations, and he grouped these variations into three chief types. In the first type, there is a partial decussation, presenting the same characters on the two sides. In the great majority of cases the band of decussating fibres is very much larger than the band which does not decussate, generally in the proportion of ten or fifteen to one. But the proportion is very variable, and in extreme cases it is entirely reversed, only a very small proportion of fibres decussating. In the second type, a complete decussation takes place on both sides; whilst in the third type, there is partial decussation on one side and complete decussation on the other. To the wide variability in the amount of decussation seen in the case of the first type, we may trace the existence of those strange but well authenticated cases of hemiplegia in which the paralysis takes place on the same side as the lesion of the brain.

The change we have just described is a *descending* degeneration following a lesion higher in the cranio-spinal axis than the seat of degeneration. Professor Charcot devoted several lectures to the study of *ascending* degenerations; in other words, to those which occur in the spinal cord or its upward prolongation

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as the result of lesions situated *below* the degenerated fasciculi. Space will not allow us to go fully into these changes; but it may be said briefly that two sets of fibres are liable to undergo this degeneration: 1. A thin band forming the extreme outer portion of the posterior half of the antero-lateral column, and known as the "direct cerebellar fasciculus;" 2. That portion of the posterior column which borders the posterior median fissure, and which forms the well-known posterior median column of Goll. There is, in addition, a degeneration of the rest of the posterior column for a short distance above the seat of the original lesion. These degenerations only result when the original lesion occupies the white matter of the cord; a simple lesion of its gray matter, as in infantile paralysis or progressive muscular atrophy, being wholly powerless to produce them. It would appear, however, that ascending degenerations of this kind may occur, not only as the result of lesions in the spinal cord itself, but of disease of the nerves after their exit from the cord. At present, the number of clinical observations in proof of this conjecture is very small indeed, but it will probably be found that, when the attention of the profession has been more widely drawn to this series of phenomena, the number of strictly authentic cases of this nature will be largely increased.

We have given but a mere outline of the subject of secondary degenerations of the spinal cord, but we think we have said enough to indicate the great importance that attaches to them in the elucidation of the problems relating to the anatomy and physiology of the cord. Many points still require to be cleared up, but the surest way of arriving at a further knowledge of the functions of its different parts, is to combine full and accurate clinical observation of cases where these functions are modified, with careful microscopical examination of the cord in such cases after death.—*British Med. Journal*, June 26, 1880.

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Fatal Chorea.

Mr. OCTAVIUS STURGES has recently made a study (*Lancet*, July 17, 1880) of some statistics of fatal chorea and deduces the following conclusions:—

1. Chorea, regarded as a disease of itself fatal, belongs almost exclusively to puberty, and especially to female puberty; its immediate exciting cause having distinct reference, in many instances, to conditions of unusual sexual excitement.

2. Besides the operation of sexual causes mental disturbance has to be reckoned; not fright only, but worry, anxiety, and despondency also, while the force and influence of such impressions is to be seen in the course as well as in the origin of fatal chorea.

3. Acute rheumatism appears as a cause of fatal chorea in but a small proportion of cases; yet the association, infrequent as it is, is distinct and unquestionable.

4. Chorea in its fatal, no less than in its non-fatal forms, shows strong preference for the female sex at all ages. Children, however, very rarely die of it, and boys, practically speaking, never.

5. Mental excitement, in varying degree (although not amongst the symptoms of ordinary chorea), is met with in so large a proportion of its fatal examples that we are justified in regarding this occurrence as of bad augury.

6. "Vegetations," new or old, on the auricular surface of the mitral valves, with or without similar deposits on the aortic valves, and sometimes with pericarditis, are met with in the great majority of cases dying of, or with, or shortly after, chorea. This condition, however, does not, as a rule, contribute directly to the fatal issue; it is found equally amongst those that die *with* and those that die *of* chorea. In some of the most marked and typical cases of fatal chorea the valves of the heart have been found absolutely healthy.

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7. There is no other morbid condition except that which concerns the heart, occurring with sufficient frequency or uniformity to be regarded as characteristic of fatal chorea.

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On Nervous Phenomena of Gastric Origin.

At a late meeting of the Paris Academy of Sciences, M. LEVEN called particular attention to the gastric origin of a certain number of medullary and cerebral nervous phenomena, which have been frequently attributed either to hysteria or to hypochondria. Thus, in his opinion, neuralgia, dermalgia, muscular and articular hyperæsthesia of the left side, thought to be caused by hysteria, are, as a rule, irradiations from lesions of the stomach. In the same way hypochondria, which alienist physicians describe as a special neurosis, frequently results, either from a dilatation of the stomach or from another affection of that organ. In pursuance of the reigning opinion on the nature of these nervous phenomena, patients are treated by preparations of iron and quinine, which only aggravate the gastric troubles and dyspepsia. On the contrary, the affection of the stomach should be treated, and all the nervous irradiations will disappear with it. M. Brown-Séquard observed that it has long been known that all the organs, or, more correctly speaking, all the nerves of the diseased organs, might bring on hysteriform phenomena; but it is very certain that the stomach shows disorders which are secondary, and depend on the general hysteric affection. M. Leven did not deny the subordination of the stomach to general neurosis, but he laid great stress on the fact that every diseased organ induces special pathological reflexes.—*British Med. Journal*, July 3, 1880.

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Acute Respiratory Paralysis of the Larynx.

Dr. PAUL KOCH (*Annales des Maladies de l'Oreille, du Larynx, etc.*, May, 1880) relates the following case. A girl, aged 7½ years, after one day's fever, suffered from a large and deep ulcer, surrounded by a zone of intense red on the left tonsil. The margins were excavated; the surface dirty yellow. Similar ulceration appeared on the opposite tonsil the same evening. During the night a hoarse cough and dyspnœa, increasing in intensity, announced an invasion of the larynx. The following morning the cough was croupy, the voice was unaffected, but there were great dyspnœa and well-marked stridor, both exclusively inspiratory. No laryngoscopic examination was made, but the author concludes that ulceration similar to that on the tonsils, had taken place on the retro-laryngeal mucous membrane, and that it had produced an œdematous infiltration of the dilators of the glottis, the dyspnœa being characteristic of paralysis of the posterior crico-arytenoid muscles. Under continued inhalation of a saturated solution of chlorate of potash, the dyspnœa rapidly disappeared.—*London Med. Record*, July 15, 1880.

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Quebracho in Dyspnœa.

In an article on the treatment of asthma (*Brit. Med. Journal*, July 17, 1880) Dr. J. B. BERKART states that the liquid extract of quebracho has of late been largely employed in the treatment of asthma. As yet, there is no indication for its use, except the presence of dyspnœa. A teaspoonful, repeated, if necessary, at intervals of ten minutes, certainly relieves, as he has observed, the dyspnœa of phthisis, of pneumonia, of pleurisy, of emphysema, and of valvular lesions. It has failed of its effect, so far as he has seen, only in two cases of aortic disease; in the one, the patient had been for years accustomed to inhale nitrite of amyl almost every two hours: in the other there was complication with marked attacks

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of stenocardia. The active principle of quebracho appears to be a gum-resin; but as to its mode of action nothing is known. Dr. Berkart has frequently noticed that after the administration of the drug, there is slight flush of the face, perspiration, and occasionally drowsiness; but there are no objective signs on the part of the heart and of the lungs sufficient to account for the relief.

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Peculiar Disease of the Intestines.

Dr. HELWEG relates, in the *Hospitals-Tidende*, Series 2, Band vi. (abstract in *Nordiskt Mediciniskt Archiv*, Band xii.) the case of an insane peasant, aged 45, who had for many years suffered from constipation, pain in the abdomen, and swelling in the ileo-cæcal region. The symptoms came on when he was out of bed; they were relieved when he was lying down; and at last he was obliged to remain in bed continually. He had about every month an attack of disorder of the digestive organs, constipation or diarrhœa, which lasted about ten days. In May, 1878, an indolent tumour, feeling like a loop of intestine, and yielding a tympanitic sound on percussion, was detected in the right iliac fossa. On deep pressure, a sort of crepitation was felt in it; it sometimes suddenly disappeared when friction was made, and reappeared after an interval varying from a few minutes to a day. The patient died on December 21, 1878, with symptoms of meningitis at the base of the brain. At the necropsy, miliary tubercles were found in the pia mater, lungs, and liver. The upper part of the cæcum and the lower part of the colon were much distended with gas; then came two contracted portions of colon, separated by a distended portion of the bowel filled with gas; the portion of the intestine on the other side of the flexure of the colon was normal. In the first of the contracted portions of the colon, the mucous membrane formed a sponge-like tissue, the meshes of which and the intestinal space were filled with round scybala; in one place, there were two straight channels lying parallel with the proper lumen of the gut. In the other contracted portion, the mucous membrane was thickened, but not spongy. On microscopic examination, it was found to have the ordinary structure of intestinal mucous membrane.

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Treatment of Parenchymatous Nephritis with Pilocarpine.

Dr. CORTEZO, in the *Siglo Medico* of June 6, 1880, reports three cases of parenchymatous nephritis treated by means of hypodermic injections of pilocarpine. The first case was that of a man, aged 30, somewhat addicted to alcoholic drinks, but whose medical history was otherwise good. On admission, all the symptoms of albuminuria, including well-marked retinal changes, were present. He was at first placed upon a strictly milk diet, but this treatment proving of little use, it was subsequently changed for hypodermic injections of pilocarpine. One centigramme of the alkaloid was used daily, or every alternate day, during a period of thirty days. At the end of this time no trace of albumen could be found in the patient's urine. The second case occurred in a man, aged 42, who, some years previously, had suffered from general motor paralysis, with partial loss of sensibility. This affection had been followed after a lapse of two years by well-marked symptoms of renal disease. The urine contained numerous hyaline casts, and albumen, to the amount of 4 grammes (1 drachm) to the litre. Hypodermic injections of 1 centigramme of pilocarpine were given during a period of twenty days, and then discontinued for ten days, during which interval all traces of albumen disappeared. The patient was discharged apparently in excellent health. The third case was that of a man, aged 42, whose urine had for some weeks presented traces of albumen. Œdema of the eyelids and of the lower extremities was present. The same quantity of the alkaloid was injected daily during four days, after which no albumen could be detected in the urine.—*London Med. Record*, July 15, 1880.

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Pilocarpine in Uræmia.

M. BOEGEHOLD (in the *Deutsche Medicin. Wochenschrift*, No. 26, p. 331, 1879; and *Gazette Hebdomadaire*, January 30, 1880, p. 75) relates four cases of undoubted uræmia, in which pilocarpine was employed in the form of subcutaneous injection. The first case was one of a child 5 years old. Acute uræmia supervened during convalescence from scarlatina; 8 milligrammes of pilocarpine were injected, and the convulsions ceased. At the end of an hour she had regained consciousness. Another attack supervened at the end of a few days, which was cured by two similar injections. The injections were made regularly during twenty days, and the attacks were not renewed. Ten days later on, the albumen had disappeared, and the cure was complete. In the second case, a boy 12 years of age was attacked by uræmic convulsions during convalescence from scarlatina. Injections of 1 centigramme of pilocarpine put a stop to the convulsions at the end of six minutes in two different attacks. Cure was effected. In the third case, the injections stopped the convulsions, but death supervened during coma. In the fourth case, the patient was seven years old, and had chronic nephritis. The convulsions ceased under the influence of injections of pilocarpine, but the child succumbed to the progress of the disease. The results obtained by the author seem to indicate that pilocarpine may be an useful agent in combating one of the most alarming and dangerous symptoms, but its utility in relation to the disease itself is certainly doubtful. However, as it stops convulsions, it may perhaps be used with advantage in puerperal eclampsia; a point which merits attention.—*London Med. Record*, July 15, 1880.

Surgery.

Perfectly Bloodless Operation.

The bloodless method of operating recommended some years ago by ESMARCH, is opposed by many surgeons on account of the general oozing which is apt to occur after removal of the elastic tube. Esmarch describes here (*Verhandl. d. Deutschen Geselsch. f. Chirurg. Apl.* 1880) the latest practical modification of his mode of procedure, by means of which such oozing may be completely prevented. In amputations, the operation is performed in the usual way by the bloodless method; all vessels requiring ligature are then carefully sought out and tied, and the wound at once closed with catgut sutures; drainage tubes, capable of being absorbed, are introduced, and Neuber's permanent compressing dressing applied. Then, and not till then, is the elastic tube removed from the limb. After the patient is placed in bed, he should keep the stump up in the vertical position for at least half an hour. [Neuber's permanent dressing consists of an antiseptic cushion, four-cornered, made of carbolized gauze filled equally and smoothly with carbolized jute; this cushion is applied directly to the wound, and is kept firmly in place by an elastic bandage which overlaps the dressing.] Of twelve amputations (9 of the leg) performed and treated in this way, secondary hemorrhage occurred in none; in most of them the first dressing was not removed for 14 days, and on it was then found only a narrow, dry streak of blood, corresponding to the linear cicatrix. In resection the author advises that after all visible ends of vessels have been tied, the wound should be closed with the continuous glover's suture, and that the limb should then be made fast to a splint and kept elevated for at least half an hour. In 56 resections managed in this way since 1878, neither secondary hemorrhage nor death had occurred. Since

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Easter, 1879, the author had also, in his operations for diseased bone, given up the practice of plugging the cavity from which the sequestrum had been removed; instead of this he now carefully disinfects the cavity, introduces absorbable drainage tubes, closes the wound in the skin at once, and applies the permanent dressing; the last step in the proceeding is, as before, the removal of the elastic tube. Twelve cases were treated in this fashion, and in none of them did secondary hemorrhage occur; in all of them the wound remained aseptic, and in several instances complete primary union took place. Esmarch also states that he has frequently adopted, and with similar results, the same method in various other operations on the extremities, such as the removal of tumours from these parts; in the neighbourhood of the shoulder and hip-joints, however it is a matter of much greater difficulty to carry out the above directions, and so to obtain a perfectly bloodless operation.—*Glasgow Med. Journ.*, Aug. 1880.

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The Radical Cure of Cancer.

Professor KOCHER of Bern, in a contribution to the *Deutsche Zeitschrift für Chirurgie*, Band 13, Heft 1, 2, on the surgical treatment of cancer, insists on the importance of removing not only the part primarily diseased, but likewise all affected glands. The proximal set of lymphatic glands should, it is stated, be always removed, since, in most cases of superficial cancer brought under the notice of the hospital surgeons, those adjacent structures are already affected. The author's paper is one of much interest, as being a record of the results that have followed the performance of radical and formidable operations for the removal of cancer. Twenty-nine cases of this kind are reported, in five of which pharyngotomy was performed; in fourteen, excision of more or less of the tongue; and in ten, removal of cancer of the rectum. In four only of all these cases did the operation cause death, and in nine of the remaining twenty-five cases radical cure is believed to have been effected. In this set of cases, in which surgical procedures of great danger and difficulty had been applied for the treatment of a disease with most unfavourable prognosis as to recurrence, the mortality was somewhat less than 14 per cent., and the proportion of complete cures about 31 per cent. The reduced mortality is attributed by the author to his endeavour to carry on as far as possible an antiseptic method, and the number of radical cures to his practice of removing with the primary seat of the disease all accessible diseased glands, and cutting in a direction from the affected glands to the original seat of the disease. Of the five patients in whom pharyngotomy was performed by Professor Kocher, one died on the thirty-sixth day from pneumonia, two died from speedy and one from late relapse (two years), and the fifth, when last seen, was quite free from disease three years after the date of the operation. The operation of pharyngotomy has, with regard to its immediate results, been attended with exceptional success in the practice of Professor Kocher, but in most of these cases some portion only of the posterior or lateral walls of the pharynx was removed, and a less severe surgical proceeding seems to have been needed than in the fatal cases treated by Von Langenbeck and Gussenbauer. The chief danger, however, attending the removal of the whole or of a portion of the pharynx, is the passage of food into the air-passages during deglutition, and consequent pneumonia. This evil Kocher endeavours to guard against by tracheotomizing the patient in the first stage of the operation, the cannula being allowed to remain during the after-treatment, and the entrance to the œsophagus being plugged by a piece of sponge dipped in some antiseptic solution. The patient is supplied with food, at certain intervals, by means of a tube passed into the œsophagus under the carbolic acid spray.

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Kocher regards preliminary tracheotomy as an indispensable proceeding in pharyngotomy. The superior is preferred to the inferior operation, as it is less likely to be followed by obstinate venous hemorrhage. The passage of blood into the trachea is prevented by plugging of the orifice of the larynx with a small piece of disinfected sponge. This plug is introduced after exposure of the deeper structures, and when the patient is thoroughly under the influence of an anæsthetic. It should be renewed frequently during the operation and whenever it is saturated with blood. The application of Trendelenburg's distensible ball-plug to the interior of the trachea is believed by Kocher to be attended with much difficulty. In order to reach the diseased portion of pharynx, an extensive incision is made, so as to form three flaps. The knife is carried from over the lower margin of the inferior maxilla, at or near the symphysis, downwards to the hyoid bone, and then laterally to the anterior margin of the sterno-mastoid muscle; from the posterior extremity of this incision, the knife is carried upwards towards the external ear, and along the ascending ramus of the jaw, and downwards to the superior and posterior part of the larynx. The superficial portion of the submaxillary gland, together with the adjacent and adherent lymphatic glands, is next removed. In this stage of the operation, the lingual and facial arteries are secured by double ligatures and divided. The laryngeal orifice having been plugged by a piece of sponge, the mylo-hyoid muscle is divided near its attachment to the lower jaw, so that the finger can be carried into the mouth, and be passed backwards so as to feel the extent of the disease in the pharynx. The inferior portion of the diseased structure is dissected away carefully from below and through the wound, whilst its superior limits are divided from the mouth. When the lateral wall of the pharynx, together with the tonsil and a portion of the soft palate, are involved in the disease, this part of the operation will be much facilitated by division of the inferior ramus of the lower jaw, which permits elevation of the ascending ramus and free exposure of the structures beyond. This proceeding should not, however, be carried out, Kocher states, save when urgently required, since it often results in the formation of a permanent false joint. During the subsequent treatment, the deeper portions of the wound, together with the entrances into the respiratory and digestive tracks, are covered by a piece of sponge previously disinfected, which is frequently renewed under the spray. The patient is fed twice in the day by fluid nutriment introduced through an œsophageal tube. Kocher claims as the advantages of his extensive and irregularly shaped wound, compared with the long straight incision practised by Von Langenbeck, that it allows much more exposure of the affected parts, and freer removal of the disease; that it enables the surgeon to plug the orifice of the larynx and œsophagus, and that it facilitates deligation of the numerous arteries divided during the operation, and so reduces the extent of the bleeding.

Fourteen cases of the removal of lingual cancer are recorded. In most of these, considerable portions of the tongue were removed, and one was a case of total extirpation. One patient died shortly after the operation from secondary hemorrhage and pneumonia; of the remaining patients, eight suffered from relapsing cancer, whilst five, including the case in which the whole of the tongue was removed, are regarded by Kocher as cured. Of the latter, one patient was living and free from disease eighteen months after the date of the operation; in two cases there was an interval of five years; and in one case an interval of six years and a half. In none of the reported cases of relapse after operation was the duration of the case, from the first appearance of the symptoms, longer than twelve months. In all the cases of supposed radical cure, the operation had been

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performed at an early stage of the disease, and before any apparent glandular affection.

Kocher, in discussing the kind of operation for the removal of cancer of the tongue, states that the surgical procedure most likely to be followed by success is such as will best favour, in the first place, a ready control and arrest of hemorrhage; in the second place, a free exposure of the field of operation, so that the smallest lymphatic glands may be seen, and, if necessary, removed; and, lastly, a free flow of buccal secretion during the subsequent treatment. None of these indications are fulfilled by attacking the disease from the mouth, a method to be practised, it is held, only in cases of small and circumscribed cancerous deposit at the tip of the tongue. Kocher operates from the neck, but his method differs considerably from that of Regnoli, in the wound being made on the side and not in the front. Division of the lower jaw is unnecessary, it is thought, save in cases in which the floor of the mouth is involved in the disease, and the infiltrated soft structures cannot be freely moved over the inner surface of this bone. In such instances, partial resection of the jaw would probably be found preferable to simple division. In Kocher's operation, devised with the aim of removing adjacent glands, as well as more or less of the diseased tongue, a large flap of skin having been made by an incision carried along the anterior margin of the sterno-mastoid muscle, and by a second carried from the posterior extremity of the first to the body of the hyoid bone, the submaxillary and adjacent lymphatic glands are removed, and the mylo-hyoid muscle exposed. This muscle, together with the buccal mucous membrane, having been divided near the lower jaw, the side of the tongue, from apex to base, becomes freely accessible. The galvano-cautery has certain decided advantages over the écraseur; it may be applied with much more precision; it guards against diphtheria of the raw surface of tongue, and, according to the experiences both of Billroth and of Kocher, its application is less likely to be followed by relapse. When used slowly, it seldom causes any primary hemorrhage, but in many instances the separation of the eschars is attended with serious secondary hemorrhage. If the operation can be performed slowly, and all divided vessels can be immediately secured, the diseased portion of tongue may be best removed by a cutting instrument, deligation having been practised on one, or, in case of total extirpation, on both lingual arteries. With regard to the danger of secondary hemorrhage, the cutting operation, Kocher states, is the safest, indeed the only safe operation. It is held that a great step in glossotomy has been made by Mr. Barker, of University College Hospital, who has practised preliminary tracheotomy in this operation. With the retention of the canula during the after-treatment, the oral and nasal cavities may be kept closed, and the wounded surfaces be protected by antiseptic dressings.

Of the ten cases of cancer of the rectum in which the disease was removed by surgical operation, two terminated speedily in death, three others in death after relapse, and four resulted in supposed radical cure. In the fatal cases and those of relapse the cancerous disease was of considerable extent, and the patients were not submitted to that particular method of operation lately practised by König, and regarded by him as most effectual with respect to the control of primary hemorrhage, the prevention of local infection, and the radical removal of the disease, both in the gut and in its lymphatic glands. The plan of dissecting upwards from the anus is rejected, and preference is given to a long median incision behind the anus, and in the posterior gap between the buttocks, so as to expose the posterior surface of the rectum, and to permit a dissection of the lateral and anterior walls from the surrounding soft parts. In this operation, diseased glands can be readily removed from the hollow of the sacrum, and this

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proceeding is carried out before the dissection of the gut. When a considerable extent of gut is involved in the disease, the coccyx is excised. König does not attach much importance to any attempt to bring down and fix the margins of healthy mucous membrane to the margins of the external skin-wound at the anus. The sutures usually tear away, and, by covering the raw surfaces by mucous membrane, free discharge of wound secretions is obstructed.

Free removal of cancer of the rectum has, on the whole, been attended by very good results. In one of König's cases the patient was living, and free from disease, eight years after the operation, and in three other cases there has been no return after intervals of three, five, and seven years. As Volkmann, however, has reported cases in which there had been intervals of six, eight, and eleven years between the date of the operation and the occurrence of relapse, it is open to doubt whether in the cases recorded by König the patients can fairly be regarded as radically cured.—*London Med. Record*, July 15, 1880.

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Scleritis and Sclero-Keratitis.

In an article on the treatment of inflammation of the sclerotic (*Recueil d' Ophthalmologie*, May, 1880), Dr. GALEZOWSKI insists on the importance of clearly distinguishing between scleritis confined to portions of the sclerotic distant from the corneal limbus, and scleritis occupying the limbus. In the former case, the disease, though obstinate, is, as a rule, curable, and will leave no external traces upon the eye nor permanently interfere with vision. The second variety, on the contrary, is frequently followed by grave complications in the cornea and iris, and may lead to permanent blindness. Both forms are intimately connected with a rheumatic or gouty diathesis, but may also be dependent on the presence of struma. As regards treatment in the first-mentioned variety of the affection, Dr. Galezowski has developed a certain procedure, which has given him excellent results. He first of all has recourse to alternate instillations of atropine and eserine, using the former twice a week, the latter every day. He then applies flying blisters to the forehead and temples, and uses ocular douches of steam. Internally, salicylate of soda is administered, in daily doses of from 2 to 4 grammes, with hypodermic injections of pilocarpine. In scleritis of syphilitic origin, he places his chief reliance on iodide of potassium. Each of these stages of treatment is illustrated by reported cases. In certain instances the author has found great benefit from scarifications at long intervals of the inflamed and swollen surface of the sclerotic. The incision should be perpendicular to the corneal border, and should extend down to the sclerotic. If done once every ten or twelve days, a single incision will often suffice to arrest the further progress of the affection. The second variety of scleritis, viz., sclero-kerato-iritis, is always localized at first in the ciliary region, very near to the corneal border, whence it spreads progressively to the cornea and the iris. In such cases, the author considers there is only one really efficacious treatment, viz., iridectomy. In most cases the pain is at once relieved, and within ten or fifteen days after cicatrization has become established, the swelling and redness disappear, and the affection is cured without danger of relapse. In support of this doctrine, he gives the histories of two cases. In one the affection has proved rebellious to all treatment, and the cornea was becoming gradually infiltrated throughout its whole extent. There was also very intense periorbital pain. Iridectomy gave immediate relief, and subsequently removed all the symptoms. In another, a strumous girl had suffered for several months from sclero-keratitis. Both eyes were affected; there were interstitial deposits in the cornea, posterior synechiæ, and symmetrical inflammation of both sclerotics. In this case, also, the results obtained by iridectomy were most satis-

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factory. The author concludes by stating that he considers the above operation to be the only successful plan of dealing with these troublesome cases.—*London Med. Record*, June 15, 1880.

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Choroiditis after Relapsing Fever.

According to TROMPETTER, in a recent epidemic of relapsing fever (febris recurrens) in Breslau (*Klin. Monatsblätter für Augenheilkunde*, April, 1880), acute choroiditis or cyclitis occurred in 21 out of 325 cases, *i. e.*, in about 6 per cent.—a higher proportion than was observed in the previous epidemic. The ocular disease began either late in the course of the fever, or after its termination. Hypopyon was of frequent occurrence, but disappeared under treatment; the iris was unaffected. The vitreous humour was invariably clouded. Acuity of vision, and light perception, were much impaired at the outset; the visual field was peripherally contracted, indicating probably, that the disease affected chiefly the anterior part of the choroid and the ciliary body. The course of the choroidal affection was almost always favourable. It lasted commonly from one month to six weeks. In two cases, both eyes were affected. Embolism or metastasis from splenic abscesses, which constantly occur in relapsing fever, is believed by the writer to be the cause of the choroiditis. Atropine locally and mercury internally, with laxatives, constituted the treatment.—*London Med. Record*, July 15, 1880.

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Epileptic Amaurosis.

CHRISTENSEN relates in the *Ugeskrift for Läger*, second series, Band 27 (abstract in *Nordiskt Mediciniskt Arkiv*, Band 11) the case of a married lady, aged 33, of healthy family, who, since her first menstruation in her twelfth year, had had attacks of loss of consciousness, sometimes with convulsions, followed by blindness of several hours' duration. These attacks occurred at each menstrual period, and ceased with the appearance of the catamenia. From her eighteenth year the convulsions became more severe, but the sensory impairment grew more rare and weaker. In December, 1872, the convulsions and catamenia did not occur; but after several days' headache and giddiness, she became blind in the course of an hour. The fundus of the eye was normal. Under the use of leeches and counter-irritants the headache ceased. Some days afterwards she had an epileptic attack, in which there was considerable hyperæmia of the optic disk and retina. She menstruated in January, and her sight began to return. After some months her vision was $=\frac{1}{2}$, with blindness to red; the disk was somewhat atrophied. Four years later she had a similar attack of blindness, but not complete. Vision returned after the appearance of the menses, but again failed, and progressive atrophy of the optic nerve now commenced. The author believes the most probable proximate cause to have been hyperæmia or inflammation of the optic nerve behind the bulb.—*London Med. Record*, July 15, 1880.

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Case of Acute Glaucoma.

Dr. COURSSERANT relates this case in the *Journal des Connaissances Médicales*, April 15, 1880. A man, aged 47, suffered from chronic gastritis with acute crisis. During three months each crisis was accompanied by prodromata of glaucoma, which disappeared during the intervals. Finally, a violent unilateral acute glaucoma set in during a crisis and persisted after its remission. Iridectomy restored vision almost to its normal acuity, and eight months later this eye had suffered no relapse. The other eye, similarly attacked during a gastric attack, was relieved by eserine, and permanently benefited by iridectomy. Reflex action

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upon the vaso-motor system in the eye is suggested as the cause of the glaucoma. —*London Med. Record*, July 15, 1880.

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Case of Convergent Strabismus of Intermittent Character.

Dr. SAMELSOHN relates the following case in the *Centralblatt für praktische Augenheilkunde*, April, 1880. A girl, aged 12, presented strong inward deviation of the right eye. Both eyes were slightly hypermetropic; in both there were slight corneal opacities; an examination with prisms revealed a remarkable indifference to diplopia. The strabismus existed only on alternate days; during the intervening days no trace of deviation, even with the eye covered, was discoverable. The examination was repeated daily, and at various times of day, for weeks together, and showed that the squint maintained an intermittent character of regular tertian type. Quinine and arsenic had no influence over it.—*London Med. Record*, July 15, 1880.

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New Operation for Entropium of the Lower Lid in Old People.

The aim in operations for relief of entropium is to make, by the removal of a fold of skin or the formation of a cicatrix, such a traction upon the tarsal cartilage as will prevent its inversion. HOTZ urges (*Klin. Monatsblätter für Augenheilkunde*, May, 1880) that to be efficient such traction requires a fixed point below, and that the lax integument of the cheek does not afford this requirement. The lower border of the tarsal cartilage, being bound by the fascia to the orbital margin, is, as regards all vertical traction, a fixed point. The steps of the operation advised are, briefly, as follows: A horizontal incision is made through the skin at a distance of 4 to 6 millimetres from the edge of the lid, and reaching from the inner to the outer canthus, so as to separate the skin of the lid from that of the cheek just over the lower margin of the tarsal cartilage; the lips of the incision are widely retracted, and that portion of the orbicularis muscle which covers the lower edge of the tarsal cartilage is removed; silk sutures, generally four, are introduced so as to obtain union of the cut edges of the skin with the exposed lower margin of the cartilage and adjacent fascia. A curved needle is passed first through the skin of the lid close to the cut edge, then through the lower edge of the cartilage and out again through the adjacent fascia, and finally, without any inclusion of any fibres of the orbicularis, from within outwards through the skin of the cheek close to the cut edge. Special details and precautions are given. Excellent results are stated to have been obtained, and notably when previous operation by excision of skin had failed.—*London Med. Record*, July 15, 1880.

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Abscess near the Lower Eyelid of Dental Origin.

Dr. PARINAUD draws attention (*Archives Générales*, June, 1880) to this occurrence, which he believes is by no means infrequent, although its origin is overlooked. The summary of his paper is as follows: 1. Alterations in the temporary or permanent teeth may induce suppuration of the lower eyelid opposite the orbital border or in the region of the lachrymal sac, where it sometimes simulates lachrymal tumour or fistula. 2. The course pursued by the pus, which originates in an alveolo-dental periostitis, being intra-osseous, is difficult of detection, and is not always in the same direction. 3. A variety of this periocular suppuration is special to children of about five or six years old. The arrangement of the alveoli of the first and second dentitions explains this predisposition, and explains the occurrence of these suppurations, which may become complicated with necrosis of the orbital border. 4. In the adult, besides the cases of lachrymal tumour,

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properly so called, which may sometimes be attributable to a carious tooth, suppuration at the great angle of the eye may be observed under two conditions. Pus originating in an alveolus may penetrate into the maxillary sinus, induce inflammation there, and give rise consecutively to the formation of a cutaneous fistula at the inner angle of the eye. In another set of cases, probably much more frequent, the lachrymal passages are free, and the sinus is not implicated, and the connection is not visible which unites the abscess or the fistula to the dental alteration. Vascular canals, which open constantly by one or two orifices on the nasal process of the superior maxilla, and which communicate also with the foramina of the alveoli, explain the development of these suppurations. 5. In suppurations of the lower eyelid, in necrosis of the orbital border, and in suppurations or fistulæ at the larger angle of the eye, we should therefore ascertain whether the cause of the accidents observed is not a bad tooth, the extraction of which is the primary indication of treatment.—*Med. Times and Gazette*, July 17, 1880.

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Treatment of Granulations in the Pharynx and Larynx by Ignipuncture.

Dr. KRISHABER (*Annales des Maladies de l'Oreille, du Larynx, etc.*, May 1880) gives a description of glandular pharyngo-laryngitis—its causes, pathology, symptoms, diagnosis, and finally its treatment. The part of the larynx most commonly affected is the mucous membrane of the arytenoid cartilages. The author has, however, seen distinct granulations on the vocal cords without any concomitant implication of the remainder of the larynx, or of the pharyngeal mucous membrane. The granulations produced by hypertrophied glands may, if isolated, pass unnoticed during life, unless a very powerful illumination be employed. This, according to the author, explains how it is that some observers deny the presence of granulations in the larynx. They are almost always of larger size in the pharynx. When the granulations in the larynx attain to a considerable size, they form true polypi, having the structure of œdema. For destruction of the granulations, the author prefers the application of ignipuncture. When the granulations are situate in the pharynx, he uses for the purpose Paquelin's thermo-cautery, and when in the larynx the galvano-cautery. (The latter may, however, be used for both forms.) Three cases are cited, in which granulations in the larynx were treated by this method. In the first case, there were two large granulations in the anterior angle of the right vocal cord, one of which was removed by a single application of the cautery, the voice becoming perfectly clear. In the second case, both pharyngeal and laryngeal granulations were cauterized, with great improvement to the voice. In the third case, two large granulations, which produced no inconvenience, were accidentally discovered on the free margin of the epiglottis, and removed by a single application of the galvano-cautery. A fourth case is also described of a lady, suffering from pharyngo-laryngeal granulations, accompanied by a feeling of a foreign body in the throat, and a dry cough. Under treatment by ignipuncture, complete recovery ensued. The author considers that the danger in this method of treatment is much less than it seems; the normal laryngeal mucous membrane presenting a much greater resistance to cauterization than the morbid growths. The efficacy of this method is infinitely superior to that of other caustics. Of pharyngeal granulations treated by ignipuncture, the author has had more than forty cases. The number of applications required in these cases varies from five to twelve. In conclusion, the author states that this treatment of glandular pharyngo-laryngitis is almost painless, and is followed by no inconvenience, a result being very promptly obtained. It is easily applied, and, except in some rare cases, requires no special skill in its employment.—*London Med. Record*, July 15, 1880.

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Examination of the Œsophagus under Chloroform.

The following is an abstract of a contribution by Dr. GIRARD, of Berne, to the *Centralblatt für Chirurgie*, No. 21, 1880. Under certain conditions, it is found necessary to give chloroform in order that a bougie may be passed readily down the œsophagus. In the administration of this anæsthetic, the usual sitting and the half-recumbent positions are inconvenient, and in the former position chloroform is dangerous, and the passing of a bougie during anæsthesia may be attended with much difficulty. This difficulty may be overcome by placing the patient on an operating table with the body lying horizontally and the head projecting beyond the table's edge, where it should be supported by an assistant, in order that the cervical vertebræ may not be bent too much over the edge, and made so prominent as to prevent the introduction of the œsophageal bougie. The surgeon stands on the left side of the patient, and is now able to introduce the sound under the following favourable conditions. 1. The mouth is either found open, or can be opened without any difficulty. 2. The trunk, neck, and head can be very readily fixed in the desirable position. 3. The buccal cavity, the pharynx, and the œsophagus are in a straight, or nearly straight line, and a straight instrument, if not too thick, can be easily passed. The surgeon, holding the bougie in the supinated hand, passes it in a horizontal direction, with a movement like to that of the first step of urethral catheterism. The supination of the surgeon's hand, and the horizontal movement, allow a freer, readier, and more delicate introduction of the bougie than does the movement in a vertical direction, and so favours a close exploration of any obstruction or stricture. Dr. Girard reports that he has practised this method in two cases with very satisfactory results. In one of these he had to deal with a carcinomatous stricture of the œsophagus, the coats of which were so sensitive that it was difficult to pass a bougie, save under chloroform. On the administration of this anæsthetic to the patient in the above described position, bougies of large size could be passed readily and precisely through the constricted portion of the canal. The second case was one of foreign body in the œsophagus. In conclusion, Dr. Girard suggests that it may be possible to apply his method to the introduction into the œsophagus of instruments permitting an endoscopic examination.—*London Med. Record*, July 15, 1880.

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Foreign Bodies in the Air-passages.

The first case related by VOLTOLINI (*Monatssch. fur Ohrenheilkunde*, December, 1879) is that of a peasant, aged 27, into whose windpipe a needle, with a short thread attached to it, accidentally slipped. With the laryngoscope, the needle was seen to be sticking into the anterior wall of the trachea, not far above the bifurcation, and from the eye of the needle the black thread could be traced running across the trachea over the right true and false vocal cords to the arytenoid cartilage of the same side, the thread being continually blown to and fro by the current of air. Attempts to seize the thread with forceps were at first unsuccessful; subsequently, however, the author appears to have succeeded in loosening the needle with the forceps, and it, together with the thread, was coughed up. With the view of preventing in future cases a needle which has entered the trachea from falling down lower, the author has made some experiments, from which he finds that the application to the skin over the windpipe of an electro-magnet prevents the needle from falling down and retains it in contact with the tracheal wall. He also suggests withdrawing the needle through the glottis by means of a wire attached to the electro-magnet (and therefore itself magnetized); but in attempting to do so the needle would in all probability become detached by closure of the glottis, and so fall down into the trachea. In

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the second case, the ends of a pair of forceps had broken off and fallen into a patient's chest during an operation for laryngeal polypus. Violent cough ensued, which resulted after nine months in expulsion of the foreign body. The foreign body in this case was supposed to have passed into the stomach, but Voltolini suggests that an analysis of the sputum might have decided the question by showing the presence of iron, especially as the forceps was found to be much rusted. The patient recovered so completely, that auscultation and percussion indicated nothing abnormal. The author urges the necessity of care in preventing instruments used in the larynx from breaking off.—*London Med. Record*, July 15, 1880.

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Foreign Bodies in the Œsophagus.

In a recent communication to the *Société de Chirurgie*, of Paris, of which a report is given in the *Gazette Médicale* of June 12th, M. LANNELONGUE stated that, during a service of three years and a half at the Sainte-Eugenie Hospital, he had extracted at least eighteen foreign bodies from the œsophagus in children. Of these bodies, thirteen were pieces of money, twelve having been sous and one a two-franc-piece. The other objects belonged to sets of toys and consisted of small plates, small bowls, portions of wheels from toy carriages, and, in one case, a small toy flask containing curaçoa. The ages of the patients varied from eighteen months to six years and a half. Children beyond the latter age are, as a rule, too sensible to swallow such articles as those mentioned. The young subjects of these accidents do not confess at once for fear of being scolded, and do not relate what has happened until the occurrence of disturbing symptoms. These symptoms usually consist in difficulty of deglutition and of pain and disturbance, often of reflex origin, in the movements of respiration and phonation. It generally happens that some time has passed between the introduction of the foreign body into the œsophagus and the application for surgical aid. In the first place, the surgeon should make sure that the foreign body has really been swallowed. He ought at once to explore the pharynx, not with the laryngoscope which the child would not tolerate, but with his finger. He should then proceed to examine the œsophagus with an olivary sound. This instrument, however, frequently deceives. After the foreign body has remained in the gullet for a short period it becomes coated with portions of food and with mucus, and so no rubbing noise can be heard on its contact with the olivary instrument. It is thought that the best instrument to introduce is the *panier à bascule* of Graefe, which consists of a small cage with two hooked appendages, the whole being fixed at one extremity of a curved rod. By means of this instrument the foreign body may be caught in one of the hooks and then withdrawn. In a brief analysis of his eighteen cases, M. Lannelongue stated that all the pieces of money were readily extracted by the use of Graefe's instrument. In one case serious hemorrhage followed the extraction of the foreign body, which was a small porcelain plate. In the case of a child, a little girl aged 6½, who had swallowed the toy flask of curaçoa, after the body had been felt with a sound and its position near the stomach made out, no attempt was made at extraction for fear of breakage. It was allowed to remain, and, on the third or fourth days, was discharged in pieces by the rectum. Instances of foreign body in the œsophagus of an adult are of rare occurrence. The author has seen two such cases. In one, the patient, a soldier, had swallowed an onion which, probably through its contact with fluids, had swollen so as to excite symptoms of commencing suffocation. M. Lannelongue, having no special instruments at hand, had recourse to a lithotrite. The male branch having been passed between the inferior part of the pharynx and the foreign body, the female branch was slipped

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down on to the foreign body, which, after a lateral movement of the lithotrite, was rejected by a violent effort on the part of the patient.—*Lond. Med. Record*, July 15, 1880.

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Diagnosis of Tumours of the Mammary Gland.

Although the lines of demarcation between many of the tumours of the mamma are not very distinct, yet a careful attention to their more prominent signs enables one to arrive at a pretty correct judgment as to their true nature. From an analysis of the cases that have occurred in his own practice, and of those collated from various sources, Dr. SAMUEL W. GROSS has framed the following conclusions:—

1. A uniformly hard, perfectly movable, nodular, slowly growing tumour, particularly if it be seated at the upper and outer part of the gland of impubic subjects and of married women toward the twenty-third year, and be free from ulceration, alterations in the skin, veins, nipple, and lymphatic glands, is a solid fibroma, and the diagnosis is strengthened by the presence of several growths in one or both breasts.

2. A hard, lobulated, peripheral tumour, or one which, after having remained stationary or progressed slowly for several years, suddenly and rapidly acquires a large volume, assumes an unequal consistence, being firm at some points and soft or fluctuating at others, occurring toward the thirty-sixth year, unaccompanied by lymphatic involvement, but attended, possibly, with discoloration of the skin, deformity of the nipple, and limited superficial adhesions, and, it may be, with dilatation of the veins, discharge from the nipple, and ulceration and fungous protrusion, is a cystic fibroma.

3. A firm, rapidly growing, peripheral tumor, appearing in prolific married females at about the thirty-seventh year, with, possibly, discoloration and adhesion of the skin, and ulceration, but without deformity of, or discharge from, the nipple, or enlargement of the glands, is a solid sarcoma. A tumour possessing these attributes and occurring toward the thirty-second year is probably a firm spindle-celled sarcoma, while one developing at about the forty-second year is more apt to be a firm round-celled sarcoma.

4. A lobulated tumour, particularly if it involves the greater part of the mamma, of quick growth from the commencement, or progressing rapidly after having increased comparatively slowly for some time, of large size, of varying or unequal consistence, occurring toward the thirty-third year, in prolific married subjects, and attended with discoloration of the skin, ulceration, enlargement of the veins, and, possibly, with discharge from the nipple and limited adhesions, or, it may be, with deformity of the nipple and glandular enlargement, is a cystic sarcoma. A very rapidly progressing tumor, of soft, apparently fluctuating consistence, with stretched skin and enlarged veins, appearing in young girls before puberty and in young married women, is a medullary sarcoma, which may be solid or cystic, and is, as a rule, composed of small spindle cells.

5. A solitary, rapidly and continuously growing, although not very bulky, rather firm, or, possibly, soft tumor, occurring at about the forty-fifth year, with limited discoloration of the skin, but not fixed to the chest, and attended, possibly, with deformity of the nipple, superficial adhesions, ulceration, dilatation of the veins, and enlargement of the axillary glands, is a solid myxoma.

6. Cystic myxoma possesses the same consistence and growing attributes of the former variety, but it develops at about the forty-eighth year, and is liable to be attended with discoloration, adhesion, and ulceration of the skin. The veins, nipple, and glands, however, are normal.

7. A hard, heavy, nodular, solitary, very slowly and equably increasing

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tumour, especially if it develops in the immediate vicinity of the nipple of a married woman toward the thirty-fifth year, and is accompanied by adhesion and discoloration of the skin, and ulceration, and, possibly, by deformity of the nipple and enlargement of the glands, but is free from fixation to the chest and dilatation of the veins, and is preceded by a discharge from the nipple, is a cystic adenoma. A solid adenoma cannot be distinguished from a solid fibroma.

8. A densely hard, inelastic, irregular, solitary, slowly growing tumour, occurring in prolific married females toward the forty-eighth year, inseparably connected with the mamma, accompanied by induration and enlargement of the associated lymphatic glands, retraction of the nipple, infiltration of, and, possibly, nodules in, the skin, ulceration, and fixation to the chest, and, it may be, by a discharge from the nipple, is a scirrhous carcinoma; and the diagnosis is strengthened if there be a history of heredity, if the tumour was preceded by psoriasis or eczema of the nipple, or if it be developed from an induration left by puerperal mastitis.

9. A soft, lobulated, voluminous, solitary, and rapidly increasing tumour, occurring in the same class of women, at about the fiftieth year, and attended with infection of the glands and skin, retraction of the nipple, fixation to the chest, and, possibly, extension to the opposite breast, but without discharge from the nipple, or marked tendency to prominence of the veins or ulceration, is a medullary or encephaloid carcinoma.

10. A hard, very slowly growing, small, solitary tumour, occurring toward the forty-fifth year, with adhesion to the skin, and, it may be, nodules in that structure, prominence of the veins, retraction of the nipple, and enlargement of the glands, and, possibly, with invasion of the opposite breast, fixation to the chest, ulceration, and discharge from the nipple, is a colloid carcinoma.

11. A densely hard, irregular and knotty, contracting and small, solitary tumour, occurring at about the forty-seventh year, and attended with retraction of the nipple, infection of the glands and skin, and, possibly, distinct tubers in the latter structure, ulceration, and immobility on the chest, is an atrophying scirrhus.

12. A slowly increasing, solitary, nodular, or slightly lobular tumour, occurring after the menopause, covered by thinned and discoloured skin, fluctuating, and, probably, discharging by the nipple, but without enlargement of the veins or glands, and without fixation to the chest, is an involution cyst.

13. A solitary, smooth, firm and elastic, or, possibly, fluctuating tumour, occurring in the vicinity of the nipple of young and prolific married women, of moderate volume, of slow growth, and unattended with alterations in the veins, nipple, skin, or glands, or with adhesions, but liable to ulceration and enlargement of the glands if it inflames, is an evolution cyst.

14. A solitary, slowly growing, not bulky, fluctuating, or semisolid tumour occurring near the nipple of lactating women, and unattended with changes in the coverings of the mamma or in the glands, is a lacteal cyst.

15. A slowly growing, small, smooth, round, firm, and elastic, or fluctuating, solitary tumour, occurring between the ages of twenty and thirty years, seated at the upper and outer border of the breast, and not near the mammilla, with a disposition to ulcerate, but without other changes in the skin, veins, or glands, is an hydatid cyst.—*New York Med. Journal*, June, 1880.

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Paracentesis of the Pericardium.

Dr. P. KUMMELL, of Berlin, in a contribution on the subject of paracentesis pericardii (*Berliner Klinische Wochenschrift*, No 23, 1880) states that this operation is very seldom indicated. Of 12,837 patients admitted into the Allgemeine

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Krankenhaus of Berlin during the past five years, there were but thirty-eight affected with pericarditis. In eight of these cases there was considerable effusion of fluid into the pericardial sac, but in two only of these instances was it thought necessary to have recourse to tapping. The subject of the first case was a male, aged 22, who, in the course of a second attack of acute rheumatism, suffered from acute fibrinous pericarditis, resulting in considerable pericardial effusion. For the relief of extreme and threatening dyspnœa, the fourth intercostal space was punctured by a needle attached to an aspirating syringe, and about two ounces of blood-stained serous fluid removed. The results of this operation were most satisfactory: the dyspnœa ceased almost immediately; there was no renewal of the effusion, and the patient made a speedy and complete recovery. The second case was one of considerable effusion into the pericardial and left pleural sacs of an emaciated and anæmic man, aged 50, whose general health had previously been very good. In consequence of increasing dyspnœa with cyanosis, the pericardial sac was tapped on the sixth day of treatment, and thirteen ounces and a half of clear serous fluid were withdrawn. At the same time, twelve ounces of fluid were removed from the left pleural cavity. The tapping gave much temporary relief, and was followed by diminished intensity of the dyspnœa and cyanosis, but two days later it was found necessary to repeat the operation. Fifteen ounces of slightly blood-stained serous fluid was removed, but again with only temporary relief. There was rapid re-accumulation of the fluid, and the patient died on the fourth day after the date of the second operation. The post-mortem examination revealed deposit of gray tubercle in the serous layer of the pericardium, recent pericarditis, enormous distension of the walls of the sac, and accumulation within the sac of about thirty ounces of blood-stained fluid containing soft fibrinous flakes. The puncture in the second case had healed, and no traces of any inflammatory reaction could be observed along the course of the needle. About three-quarters of an inch above the line of puncture, there was found an adhesion of the parietal to the visceral layer of the pericardium, of the extent of a thaler piece. Had the needle been introduced at this part it would probably have passed into the muscular structure of the heart, and no serous fluid would have been drawn off. Adhesions of this kind are usually of limited extent in front of the heart. In order to guard against error or danger, it is recommended that one, or, if necessary, more preliminary punctures be made with the small needle of a Pravaz's syringe. A fine and well-tempered needle may be introduced at any point without danger, even if it pass into the wall of the heart or into one of its cavities. The puncture should be made at a distance of about two inches from the left margin of the sternum, and in one of the spaces between the cartilages of the fourth and seventh ribs. The puncture, Kummell states, is best made with a hollow needle attached to an aspirating syringe, the diameter being about one-twelfth of an inch. This method of operation is advocated as one that can be most easily practised and is attended with least danger. It is applicable to most of the cases in which paracentesis pericardii is indicated, and it can be conveniently repeated at short intervals. It remains to be proved by future experience whether equally good results can be obtained by dissecting down to the pericardium under antiseptic conditions.—*London Med. Record*, July 15, 1880.

Modification of Lee's Operation for the Radical Cure of Varicocele.

Prof. JAMES M. HOLLOWAY, of Louisville, finds (*Medical Herald*, August, 1880) that between the upper and lower needles, where the subcutaneous division of the veins is to be done, the structures have to be stretched by an assistant in order that the enlarged veins may be tightened, as tendons are put on the stretch in the operation for talipes; otherwise the sharpest knife will hardly sever the veins.

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They are enlarged, tough, and very elastic, as is shown by their variable aspect when empty or full. And this is the cause of the difficulty in doing the operation as directed by Mr. Lee. The veins are more elastic than the fascia and skin; consequently, when the assistant has separated the needles to the utmost, the skin is tense and the fascia seems to be so; but the elastic, tortuous, empty veins move freely away from the sharp edge of the knife, and when finally imprisoned between the blade and the stretched integument, are only partially severed if at all. Any force exercised at this stage of the operation is likely to drive the sharp edge through all the structures, and thus defeat the effort to do a subcutaneous section. Having failed to accomplish a cure in several cases by a patient effort to do the operation as Mr. Lee directs, Dr. Holloway adopted the plan of enlarging slightly the orifice in the skin and fascia made by the tenotome; then, by carefully lifting each vein upon the edge of the knife, he draws it to and causes it to emerge slightly through this orifice, and then its section becomes not only easy but demonstrable. After the veins are divided, one suture is sufficient to close the incision and make it in all respects a subcutaneous wound.

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Essence of Winter-green in the Treatment of Purulent Cystitis, etc.

M. PERIER has treated a patient suffering from purulent cystitis by washing the bladder out with an antiseptic substance, hitherto more employed by perfumers than by chemists, the essence of winter-green (*Journal de Médecine et de Chirurgie*, May, 1880). It is a powerful antiseptic with a penetrating and rather pleasant odour, not at all of an irritating character. Unfortunately, it is but little used. Its somewhat high price would be no obstacle to its use, because it is only employed in small doses. The essence of winter-green is obtained from the *gaultheria procumbens*, a shrub which grows in North America. This essence is known chemically as salicylate of methylene or salicylic methylether. It is not soluble in water, and some difficulty is experienced in dissolving even small quantities of it. M. Perier has often had recourse to the following solution: Essence of winter-green, 6 grammes; tincture of quillaya saponaria, 30 grammes; water, 1 litre. He uses this solution freely for washing out the bladder, with excellent results, and without causing the least irritation. It constitutes an excellent fluid for the washing of wounds and for simple dressings. M. Perier likewise combines winter-green with vaseline, so as to make an antiseptic and inodorous ointment. He uses the following proportions: Essence of winter-green, 1 gramme; vaseline, 100 grammes. He greases his sounds and specula with it, and also uses it to anoint his fingers and hand, for examination by touch. Even in the practice of antiseptic surgery, M. Perier frequently covers his hands with this antiseptic vaseline instead of washing them too often with carbolic acid and water.—*London Med. Record*, June 15, 1880.

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A Difficult Case of Stone in the Bladder.

At a recent meeting of the Imperial Medical Society of Vienna, Professor DITTEL related the following case. A merchant, aged 48, had for ten years suffered from disease of the bladder, and for four months had had symptoms of stone. Having ascertained the presence of a calculus, Dr. Dittel performed lithotrity twice. A quantity of detritus, consisting of phosphate and oxalate of lime, was removed; but the principal mass of the stone resisted crushing, and Dr. Dittel suspected that it was sacculated. He directed an assistant to introduce his finger into the rectum and push the stone forward; but still he was unable to seize it. As a result of the lithotrity, a large number of fragments of stone came away; but one remained so firmly fixed in the fossa navicularis, that urethrotomy was

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necessary for its removal. After four days, a similar accident occurred, and the wound had to be reopened to remove the fragment of stone. On May 2d, Dr. Dittel performed lateral lithotomy. On introducing his finger into the bladder, he reached the diverticulum, but found that the stone was so closely grasped by it that, after trying for an hour, he found it quite impossible to pass his finger between the calculus and the wall of the sac. He therefore decided to perform the high operation, but was still unable to dilate the diverticulum with the finger. He then introduced a scoop between the wall of the diverticulum and the stone, and endeavoured, until he became wearied, to raise the calculus from its bed; an assistant then continued the attempt, using the symphysis pubis as a fulcrum, and applying leverage with all his force until the handle of the scoop was bent. After these attempts had been carried on for an hour and a half, the stone was at last broken up and removed in fragments. Considering the severe handling which the parts had undergone, the most unfavourable result was naturally expected, especially as parenchymatous hemorrhage from the wound set in some hours after the operation, rendering it necessary to plug the rectum. The patient became collapsed, and nausea, vomiting, and other symptoms of peritoneal irritation appeared. The case, however, ran a favourable course. Fourteen days after the operation, the patient was free from fever, and the wounds were perfectly clean.—*British Med. Journal*, June 26, 1880.

On a New Method of Arresting Gonorrhœa.

Under this title Mr. W. Watson Cheyne, Assistant Surgeon to King's College Hospital, describes (*British Med. Journal*, July 24, 1880) an antiseptic treatment of gonorrhœa. An examination of gonorrhœal pus disclosed the presence of micrococci in large numbers, and Mr. Cheyne thinks it probable that the essence of the disease consists in the growth of these or allied organisms.

In the case of gonorrhœa, Mr. Cheyne supposes that, at the time of infection, a small number of the specific organisms, which in all probability possess a considerable resisting power to the destroying action of the healthy living tissues, are retained in the urethra, that these go on developing, that the products of their growth irritate and weaken the mucous membrane in their vicinity, that the organisms can then penetrate into and live in that weakened tissue, and that the extension of this process over a portion of the mucous membrane of the urethra is the cause of the inflammatory symptoms.

Now, granting that this view, Mr. Cheyne says, which I think must be admitted to be very probable, were proved, the problem to be solved for the cure of gonorrhœa would be, how to destroy these organisms without at the same time injuring the inflamed and highly sensitive mucous membrane. If they were destroyed, one would expect the extension of the disease to cease, and the inflamed mucous membrane to return more or less rapidly to a normal state. On thinking this matter over, two substances appeared to me suitable for this purpose, being both powerfully antiseptic, and at the same time but little irritating. These are iodoform and oil of eucalyptus.

The next question was, how to apply them. It is quite clear that, if used as an injection, there would be no certainty that they would be brought into contact with the whole of the inflamed surface, partly because the swollen mucous membrane would interfere with the passage of the fluid, and partly because the patient would not in many cases apply it effectually. At the same time, an injection could not be expected to do much good, for it would flow out very quickly, and the antiseptic would not have sufficient time to act. I therefore use these antiseptics mixed with cacoa butter, and made into bougies of various lengths. These bougies are introduced well into the urethra, and a strap and pad over and around

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the orifice retain them. The bougie rapidly melts, and the mucous membrane of the urethra remains bathed in the antiseptic material for any length of time desired. These bougies possess an additional advantage over injections in that, from their size (they have a diameter of a No. 9 or 10 catheter, tapering at the point), they, so to speak, unfold the swollen mucous membrane, and thus cause the antiseptic to be more thoroughly applied.

I have tried the two antiseptics separately and also combined, and I find that they are most effectual when used in combination (possibly because iodoform is soluble to a considerable extent in oil of eucalyptus, and is thus brought into more perfect contact with the mucous membrane). The formula which seems best is five grains of iodoform[1] and ten minims of oil of eucalyptus in a bougie of forty grains. These bougies have been made for me by Mr. Martindale, of New Cavendish Street.

The specific cause of the disease being eradicated by this means, the question of further treatment arises. It seems to me that, although the development of the gonorrhœa is arrested, yet, if the discharge be allowed to become septic and irritating, urethritis might be kept up for some time. I, therefore, order an injection of boracic lotion (saturated aqueous solution of boracic acid), or an emulsion of eucalyptus oil (one ounce of eucalyptus oil, one ounce of gum acacia, water to forty or twenty ounces) to be used for two or three days. At the end of that time, injections of sulphate of zinc, two grains to the ounce, may be begun. At the same time, the great tendency of the urethral mucous membrane, when once inflamed, to remain in a state of inflammation, must be kept in mind, and everything which might tend to keep up the inflamed state must be removed. Notably, the patient must be cautioned against drinking, and it is well to order diluents and alkalies.

The method may be summed up as follows. The patient is first told to empty his bladder, partly to clear out his urethra, and partly to prevent the necessity of expelling the antiseptic from the canal for several hours. He then lies down on his back, and a bougie from four to six inches long is introduced, and the orifice of the urethra closed by strapping. The bougie ought to be dipped in eucalyptus oil, or in carbolic oil (1–20) before insertion. The patient is instructed to refrain from passing water, if possible, for the next four or five hours. If the case be severe and advanced, he takes another bougie home, and is instructed to introduce it in the same manner after he next passes urine. On that evening, or on the following day, he commences the antiseptic injection, which he uses four or five times daily. On the third or fourth day, when the symptoms have entirely subsided, an injection of sulphate of zinc, two grains to the ounce, is begun.[2] At the same time, the other points mentioned are attended to.

I have now used this method in about forty cases, and in all the result has been the arrest of the progress of the gonorrhœa. For a day or two the purulent discharge continues; but afterwards it steadily diminishes in amount, becoming in four or five days mucous, and ceasing altogether in a week or ten days. At the same time, the scalding and pain and the symptoms of inflammation rapidly diminish, and disappear completely in about thirty-six to forty-eight hours. In

[1] A considerable number of the cases have been treated with bougies containing ten grains of iodoform; but Mr. Martindale informs me that during the warm weather it is almost impossible to make them. I find, however, that bougies containing five grains are quite satisfactory, and I have had no symptoms of irritation following their use.

[2] In hospital practice, where the patient is only seen once a week, and where there is no great necessity for arresting the discharge quickly, I do not order the sulphate of zinc injection till the week following the introduction of the bougies.

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fact, the case becomes no longer one of virulent gonorrhœa, but one of simple urethritis, rapidly progressing towards recovery, if properly treated.[1]

I have used this treatment only in the early stages of the disease, from the first to the seventh day after the commencement of the symptoms; but it has answered equally well in all. Thus the following is the case in which it was used seven days after the commencement of the symptoms. The patient presented himself on June 19th, stating that the symptoms of gonorrhœa had existed for seven days. There was a profuse purulent discharge from the urethra; the penis was somewhat swollen and red; there was intense scalding when urine was passed, and a constant feeling of heat and uneasiness; no chordee. A bougie, containing ten grains of iodoform and ten minims of eucalyptus oil, was passed down, and the orifice closed in the usual manner. The patient was also ordered an injection of an ounce of oil of eucalyptus and an ounce of gum acacia in a pint of water, to be commenced in the evening, and to be used four or five times daily. On the 19th, he again presented himself, and stated that he had not passed water till five hours after the introduction of the bougie; that the scalding and feeling of uneasiness rapidly subsided, and had completely ceased in forty-eight hours; and that the discharge had steadily decreased from the second day, and was now very small in quantity. He was ordered the sulphate of zinc injection, which completed the cure in three days.

In one case, there was a recurrence of the symptoms. The patient, a hospital patient, first presented himself on June 5th, stating that on June 2d, five days after connection, a discharge had commenced, which had steadily increased, and was now profuse and accompanied with considerable uneasiness and scalding in passing urine. A bougie containing ten minims of oil of eucalyptus alone was inserted; no other treatment was ordered. On June 9th, he returned, stating that, after the introduction of the bougie, the scalding and uneasiness had diminished, and had almost disappeared on the evening of the 6th; but that on the afternoon of the 7th they began to return, and were now more severe than on the 5th. I introduced a bougie containing ten grains of iodoform and ten minims of eucalyptus oil, and gave the patient another to insert at bedtime. At the same time, I ordered the injection of boracic lotion to be commenced on the following day. When seen again on the 16th, he stated that this time the treatment had been successful, and that now the discharge was very slight. An injection of sulphate of zinc and a mixture containing copaiba were ordered, and the discharge ceased entirely on the 20th.

In two or three cases, there has been slight increase in the scalding on the first or second occasion on which the patient passed urine after the introduction of the bougies; but this has only been temporary, and these cases were as rapid as the others. In four instances, however, there has been considerable increase

[1] The course described here is that usually followed when boracic lotion has been employed as the injection; but since I have begun the use of the eucalyptus emulsion, the cessation of the discharge has, as a rule, been more rapid. Thus, to give an example, a patient came to the hospital on July 3d with symptoms of gonorrhœa, which had lasted four days. He was suffering from a very acute attack, having severe scalding and commencing chordee. He had not previously suffered from gonorrhœa. A bougie containing five grains of iodoform and ten minims of eucalyptus oil was introduced; and he was ordered to begin an injection of the eucalyptus emulsion (1 in 40) in the evening. The patient showed himself again on July 7th, and stated that in twenty-four hours the painful symptoms had entirely disappeared, and that the discharge diminished rapidly, and ceased altogether on July 6th. I have since that time had several nearly as rapid cases. I have tried in three cases injections of eucalyptus emulsion without previous introduction of a bougie, but without any appreciable effect on the progress of the disease.

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in the symptoms for twenty-four or thirty-six hours. In three of these, the bougies had been made with beeswax; and they did not melt properly, and consequently came out of the urethra at various periods as small cakes. Further, it seems that some iodine had been set free from the iodoform, probably during their manufacture. In the fourth case, four bougies, each containing 10 grains of iodoform, were introduced in succession. In all these, however, the symptoms passed off in about three days; and then the gonorrhœa was found to be checked, just as in the other instances.

Such are the results as yet obtained by this method. I do not claim any specific power for the two substances I have mentioned. It may be that there are other antiseptics which would be more suitable, and I intend to test any which seem likely to yield good results. Whatever substance be used, however, I venture to think that the results already obtained show that the principle on which it ought to be applied, and on which it will prove most satisfactory, is that which I have attempted to indicate in this paper.

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On Chancre of the Meatus and Urethra in the Male.

In an interesting discussion of this lesion Dr. J. Nevins Hyde, Professor of Skin and Venereal Diseases in Rush Medical College, Chicago, presents the following conclusions:—

1. Chancres of the meatus and of the urethra are symptomatically distinct.

2. Chancres of the meatus are chiefly remarkable for their irritability, in consequence of the passage over them of the urinary current, their tendency to phagedena, and the characteristic deformity of the glans which they frequently occasion.

3. Intra-urethral chancre, as distinguished from visible chancre of the meatus and chancre involving in part only the rim of the urethral valve, is of exceedingly rare occurrence.

4. Intra-urethral chancre, invisible or but imperfectly visible to the eye unaided by the endoscope, can usually be distinguished as such in consequence of the mass of induration which lies immediately beneath the urethral mucous membrane at the site of the lesion, and is readily recognized by the touch through the external tissues of the male organ.

5. Intra-urethral chancres are accompanied by very scanty or insignificant discharge, and when the latter is present, it bears no proportion to the evident signs of disease connected with the sclerosis.

6. The reddened furrow or sulcus, covered with a thin secretion, visible in the floor of the fossa navicularis, especially in the subjects of gleet, should never be mistaken for intra-urethral chancre.

7. When a man exhibits a decidedly purulent urethral discharge, without coincident symptoms of unmistakable syphilis, he can be safely pronounced free from all danger of the last named disease, provided always the period of incubation of syphilitic chancre has, in his history, already lapsed.

8. Intra-urethral chancre need therefore never be mistaken for gonorrhœal disease, as the two affections are so distinct that a differential diagnosis can usually be satisfactorily established without the aid of the endoscope.

9. For many reasons the endoscope should be regarded as a valuable adjuvant in the diagnosis of urethral disorders, and recourse should be had to it in all doubtful cases.—*Chicago Medical Journal*, Aug. 1880.

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Digital Compression of Aneurisms.

Dr. Pize (*Bulletin de Thérapeutique*, April 30, 1880) condemns the teaching of Bellingham and Broca, to the effect that total compression gives rise to the

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formation of soft or passive clots in an aneurism, while partial compression favours the formation of solid fibrinous clots, which alone conduce to repair. The author advocates the retention of digital compression during the first twenty-four or forty-eight hours, after which it should be intermitted at night, to allow the patient to sleep. He considers that total digital compression offers advantages over any other means of treatment, inasmuch as (1) it is not dangerous; (2) it is more rapid in its action; (3) it is more often successful, and gives more brilliant results; (4) it has succeeded in cases in which partial compression has failed. He says that the reason why this treatment is most successful is because it most conduces to coagulation of blood within the aneurismal sac.—*London Med. Record*, July 15, 1880.

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Bony Tumour in Muscle.

In the *Presse Méd. Belge* Dr. THIRIAR relates the case of a sawyer, thirty-six years old, whose foot slipped while playing at skittles, he at the time having in his hand a bowl weighing between twenty and thirty kilos. He felt a violent pain opposite the insertion of the adductor longus in the pubis. Next day he felt in this locality a tumour the size of a pea, which gradually enlarged in all directions. At first it caused neither pain nor inconvenience; but, after a while, pains came on, and motion became first difficult and then impossible. When Dr. Thiriar first saw the patient, some weeks after the accident, he found a hard conical tumour, five centimetres in length, extending from the pubis into the adductor. Its removal was accomplished between two and three months after the accident, the adhesion to the pubis being so strong as to require the use of a forceps. It was found to be a true osteoma composed of spongy bony tissue. It was supposed to have originated in the portion of the adductor attached to the pubis, and gradually invading the muscular tissue. Recovery from the operation was complete three months after the occurrence of the accident.—*Med. Times and Gazette*, July 31, 1880.

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Case of Osteomyelitis.

Professor KÖNIG of Gottingen has reported (*Centralblatt für Chirurgie*, No. 14, 1880) the following case of recovery after amputation for suppurative osteomyelitis of the femur. The patient, a labourer, aged 39, had been laid up about eight years previously with suppurative inflammation of the left knee due to an injury to this joint. The man at that time had made a good recovery, and for the subsequent five years had been able to make full use of the affected limb. At the end of this period, however, the left knee had again become swollen without any evident cause. When the case was first seen by Professor König, the left lower limb was almost quite useless; the leg was semi-flexed, and there was a slight outward bending at the knee. The tibia had been dragged backwards, and the movements of the knee were restricted to slight flexion which caused much pain. It was thought necessary to excise the diseased knee. As in every instance of this condition of joint-flexion, abduction with much backward displacement of the tibia; the operation was attended with great difficulty, in consequence of contraction and shortening of the soft parts at the back of the limb. The wound remained aseptic for eight days, but subsequently, without any recognizable cause, suppuration came on, which increased, and was associated with fever, rising at times, and very irregularly, to 104 deg. Several incisions were made, but without good results, and it soon became evident that suppuration had extended along the shaft of the femur, and that the patient, pallid, and without appetite, was suffering from severe septic poisoning. Six weeks later

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the affected limb was amputated at the middle of the thigh. In the division of the bone the saw passed through a large collection within the medullary cavity of putrid pus. Professor König hesitated, on account of the prostrate condition of the patient, to remove the limb at the hip, and made an attempt to save the remaining portion of the thigh by treating antiseptically the purulent osteomyelitis. By means of a sharp spoon mounted on a long handle, all the putrid and degenerated marrow was removed from the medullary cavity. This cavity was next cleansed by the introduction of plugs of cotton-wool impregnated with a concentrated solution of chloride of zinc until all bad smell was removed. The surfaces of the flaps having been washed with the solution of chloride of zinc, the wound was closed by sutures and drained, and finally covered by antiseptic dressings. A long drainage-tube was also inserted into the medullary canal. The dressings were renewed daily, and the medullary cavity washed out with a solution of carbolic acid injected through the drainage-tube. On the fifth day, as the discharge had a bad smell, the stump was laid open, and the surfaces of the flaps were again disinfected. The stump subsequently healed by granulation, and without any putrefaction of the discharge. The amputation was followed by a fall of the patient's temperature, and by much improvement in his general condition. In his remarks on this case, Professor König states that it is doubtful whether the suppurative osteo-myelitis was the result of a fresh infection after resection of the knee, or was due to a pre-existent osteomyelitic deposit. The latter view was formed by the existence made out at the time of the amputation of considerable persisted thickening along the femur. The case is regarded of some importance, as it proves the possibility of dealing successfully with acute putrid osteomyelitis—a much and justly-dreaded result of injury of bone—by removal of the suppurating medulla, and disinfective cleansing of the medullary canal with a concentrated solution of chloride of zinc.—*London Med. Record*, June 15, 1880.

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Relapsing Luxation of the Humerus.

According to Roser, repeated luxation of the head of the humerus is due to enlargement of the communicating orifice between the shoulder-joint and the bursa of the subscapularis muscle. Malgaigne, on the other hand, held that it was the result of premature movements of the joints after the original injury, and of consequent incomplete cicatrization of the rent in the capsular ligament. Dr. Joessel, of Strasburg, states (*Deutsche Zeitschrift für Chirurgie*, Band xiii. Heft 2) that there is no anatomical evidence in favour of either of these views, and he describes nine preparations, four from subjects, who, as had been well known, had suffered from repeated dislocation of the shoulder during life. These specimens show, in the author's opinion, that the predisposition to relapse of the luxation is the result in some instances of extreme distension of the capsule, but in most of permanent separation of the tendons of the muscles inserted into the tuberosities of the humerus, which tendons, in most cases of luxation of the head of the bone, are torn away at their attachments. In some very rare cases, relapsing luxation at the shoulder is the result of fracture of the glenoid cavity or of the head of the humerus.—*London Med. Record*, July 15, 1880.

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Midwifery and Gynæcology.

Intractable Vomiting of Pregnancy treated by the Inhalation of Oxygen.

Dr. PINARD relates (*Annales de Gynécologie*, Mai, 1880) the case of a patient, aged twenty-two, pregnant for the first time. Vomiting began in the first month, and continued with great severity, all food being returned, and the patient in consequence becoming very weak and emaciated. Ipecacuanha, citrate of magnesia, ether spray, hypodermic injections of morphia, were all tried without any effect. After the vomiting had lasted about seven weeks, the inhalation of oxygen by the Limouzin apparatus was tried. The first day of this treatment ten litres were inhaled, the second day twelve litres, and fifteen litres the third. From this time the vomiting ceased, and no more treatment was necessary. The patient rapidly recovered her health, and went to the full term of pregnancy. It should be added, that in the early part of pregnancy, the uterus was retroverted, and, Dr. Pinard remarks, many authors would look upon this as the cause of vomiting. But the retroversion was spontaneously reduced before the oxygen was resorted to, and the vomiting continued as before. The association therefore of the vomiting with retroversion was here nothing more than a coincidence. Dr. Pinard was led to prescribe the oxygen inhalation by the facts made known by Professor Hayem, showing the beneficial effect of oxygen inhalation in the vomiting of chlorotic patients. Whether in this case the vomiting ceased spontaneously, or in consequence of the oxygen, the author points out, the future only can show; and he hopes that others will use the remedy, and publish their results.—*Obstetrical Journal of Great Britain*, July, 1880.

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Amputation of the Procident Arm for the purpose of facilitating Version.

Dr. PÉNARD (of Rochefort) writes on this subject, and to his paper is added a postscript by Dr. Pinard, of Paris. The authors refer to the statements on this subject in systematic treatises on midwifery, and though fully agreeing that such a proceeding should never be thought of while there is the least spark of life to be perceived in the child, yet, considered in relation to cases in which the child has been long dead, he thinks it has been unjustly condemned. He considers that there are cases in which version is impracticable, and where embryotomy seems called for, and yet in which, after the procident arm has been removed, turning can be performed; that therefore, in such cases, amputation of the arm may be looked upon as a substitute for embryotomy. Dr. Pinard adds a theoretical explanation of the view which Dr. Pénard's experience has led him to form. He supposes that there are cases in which, if the scapular projection is entire, the superior border of the shoulder may become fixed against the lower border, or the posterior surface, of the symphysis pubis. In such cases, if, by amputation of the arm, the projection of the shoulder is destroyed, the trunk will readily rise, and the lower extremity can be brought down. He states that he has known many times MM. Pajot and Stoltz perform version in cases in which it was previously thought impossible, after simply amputating the upper extremity.—*Obstetrical Journal of Great Britain*, July, 1880, from *Annales de Gynécologie*, Dec. 1879.

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Treatment of Post-Partum Hemorrhage.

Dr. GEORGE J. ENGELMANN, of St. Louis, thus briefly outlines (*St. Louis Med. and Surg. Journal*, Aug. 1880) that treatment of post-partum hemorrhage,

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which seems to him the most rational, as suggested by his own experience, and a careful analysis of the recent experience of able and judicious obstetricians.

A.—*Preventive treatment after induction of labour.*—1. Careful attention to every detail, and strict observance of obstetric rules in *every* case of labour.

2. The administration of a full dose of ergot as the head enters the vaginal orifice.

3. Should hemorrhage threaten, follow the uterine fundus with the firmly superimposed hand.

4. Express the placenta by Crêdé's method, and retain a firm grasp upon the fundus.

B.—*Treatment of an existing hemorrhage.*—1. External manipulation, pressure, and friction with the cold hand, or with ice.

2. Ergot—best subcutaneously, one or two large doses, whilst other manipulations are in progress.

3. Introduction of the hand into the vagina, and if no contractions follow, into the uterus; removal of clots and irritation of the surface, in order to stimulate contractions.

4. The subcutaneous administration of ether.

4*a*. Ice or vinegar, if at hand, may now be tried in the uterine cavity, but if they fail must not be persisted in.

5. The hot-water douche, which, if it is not followed by the desired contraction, will at least stimulate the patient, and cleanse the cavity, so that the final, safest, and most reliable remedy may be resorted to.

6. The iron swab—this may be used at once, if the introduction of the hand and the subcutaneous injection of ether fail, or after the trial of the hot-water douche; but in desperate cases must be resorted to at once, without losing time with other less reliable methods.

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Puerperal Fever at Queen Charlotte's Hospital.

The annual report of Queen Charlotte's lying-in Hospital for 1879, contains an interesting account of an outbreak of puerperal fever in that institution. It appears that a severe outbreak of puerperal fever occurred in the hospital in the spring of 1879, necessitating the closure of the hospital from April 21st to September 20th of that year. Careful investigation failed to show that either overcrowding, defective sanitation, or ventilation, had any influence in the production of the fever. The midwives were attending their private cases in the district with impunity, nor was there a single case of fever in the out-patient department of the hospital, nor, so far as could be ascertained, in the district, during the whole time of the outbreak. On April 10th, the porter was stricken down with erysipelas, of which he almost died in the Westminster Hospital. On questioning him about his illness, it was elicited that, upon the removal of certain batches of linen from the disinfecting apparatus, for some time past he had felt ill, with violent headache, sore-throat, and sickness. This circumstance directed attention to the linen as a possible factor in the spread of the disease, and, on inquiry being made in this direction, it was found that the temperature in the disinfecting apparatus could be raised only to 180°, 70° below the proper standard. It also transpired that the porter did not know how to work the apparatus, and that his predecessor had been equally ignorant. Consequently, from October, 1878, to April, 1879, the apparatus was practically useless for the purpose of disinfection. It is here noted in the report that it was no part of the house-surgeon's duty to attend to the disinfection of the linen. Thus the disinfectant stove became a

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propagator of disease, as the linen was kept for several hours in a close, moist, warm atmosphere, and the bulk of the linen came out of the stove feeling damper than when it was put in. In this condition it was sent upstairs, and, frequently without being aired, distributed to the patients. The linen, when it came from the laundress, was too damp to be disinfected. This arose from the shortness of the supply not allowing a sufficient time for drying and airing, and from a mistaken notion on the part of the laundress that the disinfecting apparatus was a drying stove. The outbreak of fever finally culminated in the deaths of no fewer than seven women out of twelve patients delivered in the hospital from March 27th to 29th, of whom ten came in within twenty-six hours. Extended investigation also revealed the following facts, which, coupled with the above, led to the conclusion that the fever was conveyed by, and probably originated in the linen.

1. The periodical outbreaks of fever, as far as could be ascertained, appeared to correspond with the returns of certain batches of linen from the wash.

2. Mothers and infants supplied with brand new linen did perfectly well.

3. Women who were doing well suddenly developed marked feverish symptoms, which corresponded with the change of linen.

4. Cases suffering from puerperal fever, and convalescing most favorably, appeared to be restricken; and this occurred more than once in the same patient. Some of these cases recovered, and some died. This necessitated latterly the use of brand new linen for infected cases, in order to give them a chance of recovery.

5. Infants were attacked with local erysipelas (nates et genitalia) after the application of certain linen which had been used by infected mothers.

6. None of the nurses who slept in the wards with their patients were affected. The linen supplied to them was household linen, and was not used by the patients.

In the course of the investigation, several circumstances were brought to light which probably had some bearing on the outbreak and spread of the disease.

1. Certain articles of linen were used by mothers and infants alike.

2. The linen had been habitually distributed damp and unaired, particularly on one floor, during the last six months.

3. That injunctions from the medical officers to return for stoving all linen sent up from the stove damp, were disregarded.

4. Infected and uninfected linen were sent to one and the same laundress.

5. The linen in use in the labor wards was the same as that used by the patients generally.

6. There was no inventory made of the linen before it was sent to the wash, only on its return.

7. For several months, the soiled linen from the labour-wards was mixed with the impure linen from the lying-in wards, and was kept together in closed cans for many hours. The labour-ward linen became so "heated through fermentation, that it could hardly be touched." It is believed that this, amongst other things, was a most important element in the spread of the disease.

8. Disinfection with the ordinary disinfectants, even boiling and prolonged baking at a temperature of above 250°, do not destroy the germs of mischief in linen highly charged with septic impurities. This fact has been more than once observed by the medical officers. Each baking and boiling, it is true, they say, lessens the virulency of the poison, the attacks caused by it become milder, but still some germs of mischief remain. This was remarkably the case on the reopening of the hospital in 1877, after the outbreak of fever in 1876. Although the hospital had been closed for three months, nearly every patient admitted on its reopening was stricken with feverish symptoms, and erysipelas soon showed itself. The number of admissions kept on increasing, the patients attacked be-

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came fewer, and the type of the disease milder, until it finally disappeared. During this time, the greatest care was taken to have the linen properly stoved, and the apparatus was in perfect working order. A consideration of these facts renders it surprising that the outbreak did not occur earlier. The precautions taken since the reopening of the hospital in September, 1879, have hitherto had the happiest results, every patient being treated on antiseptic principles.—*Brit. Med. Journal*, July 31, 1880.

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Acidity as a Cause af Sterility.

In the *Bulletin de Thérapeutique*, June 15, Dr. CHARRIER publishes a paper which he read at the Paris Société de Médecine; it terminates with the following conclusions: 1. In some rare cases, in women who are otherwise quite well, the utero-vaginal secretions are quite sour, as is seen by their reddening litmus. 2. This acid may prove an absolute obstacle to fertility, as spermatozoa are killed in even a slightly acid medium. 3. This abnormal state is to be remedied by an alkaline treatment, by means of alkaline drinks and baths, and tepid alkaline injections. 4. When this acid condition has been neutralized, conception may take place. (Two cases in point are detailed.) 5. This disappearance of acidity under the influence of alkaline treatment may explain the success which is obtained at alkaline and sulphuro-alkaline mineral water establishments in the treatment of sterility. In a note in the *Bulletin* of June 30, Prof. Pajot entirely confirms this statement, and says that for many years past he has been in the habit of prescribing injections of Vichy water in these cases of acid vaginal discharges. He observes that in fair women, and especially those with a red complexion, and more rarely in brunettes, the acidity of the secretions sometimes reaches such a point, that, in spite of the extremest cleanliness, the acid odour is perceived during the passage of the speculum. Dr. Charrier says that the best liquid for injection in these cases is that devised by Byasson (water 1000 grammes, the white of one egg, and fifty-nine grammes of phosphate of soda), in which he was able to keep spermatozoa alive for twelve days at a temperature of 36° C.—*Med. Times and Gazette*, July 24, 1880.

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A New Means for the Prevention of Hemorrhage in Operations upon the Female Genitals.

This is the title of a lengthy paper in the *Annales de Gynécologie*, Mai, 1880, by Professor COURTY, of Montpelier. This remedy is the injection of hot water —that is, water as hot as the patient can bear it, practised several hours or several days beforehand, according to circumstances. The usefulness of such injections, he thinks, might be inferred beforehand, from the curious effect in stopping uterine hemorrhages, of heat applied, more or less near the uterus, in the lumbar region, or the vagina, etc. He refers, in illustration, to the writings of Chapman, Atthill, Gueneau de Mussy, and Emmet. He has now seen enough in his own practice, and that of others, to prevent him from having any doubt that hot-water injections will temporarily, if not permanently, arrest uterine hemorrhage. He looks upon it as a very natural transition from a hæmostatic action to infer a "decongestive." He has therefore often recommended hot-water injections in diseases accompanied with congestion, and with satisfactory results. From this he was led to recommend their frequent and prolonged use as a preparatory treatment for operations likely to be attended with hemorrhage. He has thus used it before performing incision of the cervix, removal of, or plastic operations upon, that part, vesico-vaginal fistula, etc., each time with the result, he believes, of much greater facility in the performance of the operation,

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from the absence of the oozing which often obscures the surgeon's view of the parts he is dealing with, as well as with much less actual loss of blood. He does not think it is necessary for the patient, in using these injections, to assume the inconvenient posture usually recommended—*i. e.*, the pelvis raised, shoulders low, thigh flexed, etc.—but considers them equally efficient if the patient uses them on an ordinary bidet, and with a syringe capable of containing a good volume of fluid, and of being introduced well up into the posterior cul-de-sac. These latter points he looks upon as of great importance.—*Obstetrical Journal of Great Britain*, July, 1880.

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Rudimentary Müller's Duct with Hernia of the Left Uterine Horn.

LEOPOLD reports the case of a patient (*Archiv für Gynäkologie*, Band xiv.), aged 28, who had been married eight years without children. She had never menstruated, but had, since her fourteenth year, regularly experienced severe menstrual pains, during which a tumour of the size of a plum in the left inguinal region swelled and became very painful. More recently, vicarious bleedings from the nose and lungs had appeared. On examination, a tumour of the size of half a hen's egg, uneven, and only slightly movable, was found. The vagina was only permeable for the tip of the index finger, measuring 3 centimetres in length, and ending in a *cul-de-sac*, in which no trace of the vaginal portion of the uterus could be found. The tumour in the inguinal region was diagnosed as an ovary, and it was determined to remove it on account of the suffering it caused. At the operation, the tumour was found to be the upper portion of a small uterus, with a Fallopian tube 6 centimetres long, and a somewhat small but well-developed ovary; below it was connected with the pelvic tissue by a narrow band. The tube, ovary, and uterus was ligatured and removed. The pedicle was tied and dropped in. Recovery was uninterrupted. The painful molimina have entirely ceased since the operation. The uterine cavity was of the size of a berry, filled with clear mucus; the mucous membrane was free from any appearance of old or recent hemorrhages. The ovary contained numerous follicles and corpora lutea. Dr. Leopold regarded the case as one of rudimentary development of Müller's duct, and congenital hernia of a rudimentary uterine horn. This last abnormity has hitherto only been described in one case, by Olshausen, in the *Archiv für Gynäkologie*, Band i. p. 41. In this case the left uterine horn, together with the ovary during pregnancy, could be detected in an inguinal hernia.—*Lond. Med. Record*, July 15, 1880.

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On the Condition of the Uterine Mucous Membrane during Menstruation.

Dr. MOERICKE points out (*Centralblatt für Gynäkologie*, June 19th) that menstruation is a physiological process. If the general theory that the mucous membrane of the uterus were wholly, or completely, destroyed during menstruation were true, it would no longer be a physiological but a pathological process. Further, even, in certain diseases of the endometrium, we find that the epithelial coating is retained. He thinks that the theory of degeneration of the mucous membrane at the menstrual periods arose from the fact that the preparations examined were not fresh but exhibited *post-mortem* changes. The method which Dr. Moericke has adopted is to scoop off with a sharp curette a fresh piece of mucous membrane from the uterine surface. This he does at all stages of menstruation, before, during, and after. In every case, both in the fresh and the hardened preparations, he has found the epithelial covering completely preserved. In some cases it was found to be ruptured or perforated by an underlying blood-extravasation, but in no place was it degenerating.—*London Med. Record*, July 15, 1880.

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Freund's Operation.

KUHN relates two cases (*Centralblatt für Gynäkologie*, May 8, 1880). One case was that of a woman, aged 39, the mother of seven children. The body and cervix of the uterus were the seats of cancerous deposit. The operation of total extirpation of the uterus was decided on, and, on November 18, 1879, it was performed with Listerian precautions. The bladder was emptied by the catheter, the vagina washed out with a five per cent. carbolic solution, and then a colpeurynter was inserted, and distended so as to raise the uterus up towards the pelvic brim. Chloroform was administered. The abdominal incision was commenced one inch and a half below the umbilicus, and carried down close to the symphysis pubis. The uterus was seized with a Nélaton's forceps, and drawn up. The intestines were retained in the abdomen, by an assistant, in a warm moist cloth. The peritoneal covering of the uterus was intact. The ovaries were adherent to the tubes and broad ligaments on both sides. The body of the uterus was divided on each side from the broad ligament by a bistoury, and separated in the same way from the vaginal insertion. After the removal of the uterus, some bleeding took place from a branch of the left uterine artery, which was tied. The right and left ovaries were also ligatured and removed. The sutures were then drawn through the vagina, and the edges of the peritoneum brought accurately together in Douglas's pouch. The pelvic cavity was washed out with a two per cent. carbolic solution, and the abdominal wound closed with deep and superficial sutures. Lister's dressing was applied to the wound. At the beginning of January, the patient was able to leave her bed; she did not, however, continue to recover, for the discharge from the vagina re-appeared, and she died on March 14th. At the necropsy, cancerous growth was found in the upper part of the vagina and bladder. The second case was that of a woman, aged 40, mother of two children. The operation was performed March 2, 1880. The same precautions were used as in Case 1, and the same steps pursued in the operation. Both ovaries were removed as in Case 1, and their ligatures cut short and dropped back. The cancerous mass invaded the cervix and body of the uterus. The patient died fifteen hours after the operation, of collapse. At the necropsy, a dirty thick fluid was found among the intestines. The bladder and ureters were uninjured, and not pierced by the ligatures. There was a small blood clot in the pelvis. [Both these cases may be regarded as examples of the questionable value of Freund's operation. In the first case, the disease returned, as it always must when the neighbouring tissues are involved; and, in the second, the patient died of collapse. It is observed that the colpeurynter was passed into the vagina in order to bring the uterus up within operative reach. The reporter, when performing Freund's operation on the dead subject, found, at the suggestion of Dr. Garson, that the uterus was raised much higher by inserting the colpeurynter into the rectum, and then distend it with water.—*Rep.*]—*London Med. Record*, July 15, 1880.

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Oöphorectomy.

Mr. LAWSON TAIT reports (*British Medical Journal*, July 10, 1880) twenty-eight cases of oöphorectomy performed by himself within the past twelve months. The operation was performed on account of dysmenorrhœa in twelve cases, of menstrual epilepsy and mania in two, of menorrhagia in two, of hemorrhage from myoma in eleven, and of abscess of ovary in one.

In twenty-six completed operations there was only one death, and Mr. Tait regrets ever having attempted the operation, as the patient was almost moribund when he saw her. There was also one death among the two incomplete opera-

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tions, which warned Mr. Tait that, unless the ovaries can be fully removed, they had better not be touched.

Castration on account of Retroflexion of the Uterus.

Dr. E. Börner (*Wiener Medizinische Wochenschrift*, Nos. 19 and 20, 1880) properly defines the meaning of his title as being the removal of both healthy ovaries, in order to bring about the cessation of menstruation, and the retrograde metamorphosis of the uterus, and so to cause the sufferings caused by retroflexion to disappear. He reports the case of a patient who was twenty-six, unmarried, and had suffered from the retroflexion for seven years. She had severe dysmenorrhœa, which, from the absence of all appearances of inflammation, was believed to depend solely upon the flexion. She had been treated, both generally and locally, by many medical men without benefit. Division of the cervix, with subsequent introduction of thick bougies, continued for a long time, only once produced relief to the menstrual pain. Treatment by intra-uterine pessaries failed on account of the great sensitiveness of the uterus, and vaginal pessaries could only be tolerated in the inter-menstrual period. During menstruation there were several hysterical convulsions, and very painful uterine contractions, which would gradually extend to the whole muscular system. There was complete loss of sleep, and all nutriment was refused, and this lasted nearly a week each time. The patient's strength was the more enfeebled by her having resorted to morphia, so that any slight irritation brought on divers hysterical symptoms. In this state of things castration was resorted to. The incision was made in the linea alba. The ovaries were not adherent. The patient recovered from the operation, leaving her bed four weeks afterwards. Menstruation should normally have occurred on the sixth day after the operation. It actually happened two days afterwards, but lasted four days only. The next three months passed without either hemorrhage or the customary pains. The following month there was "a trace hardly worth naming," and the accompanying pains were reduced to such a minimum that occasional rest in bed during one or two days was enough to relieve them. The two following months there was no hemorrhage. The author therefore considers that the result aimed at by the operation was completely attained. The symptoms occasioned by the retroflexion (sacral pain, etc.) gradually went away, although no care was taken to correct the deviation. The author sums up the position of this operation among the modes of treatment suitable for flexion, as follows: Deviations of the uterus accompanied with severe suffering may form an indication for castration, if every kind of treatment directed to the causal conditions of the flexion has been tried and found without benefit, and some contra-indication is present which prevents mechanical treatment from being tried, and yet relief is urgently called for. Among the contra-indications for mechanical treatment (which therefore may be spoken of as indications for castration) are certain kinds of inflammation—peri- and para-metritis with effusion, or acute inflammation of the uterus itself—and bleeding, unless this has arisen from venous congestion the result of the flexion. Also certain kinds of adhesions, such as render reposition difficult and painful; and abnormal sensitiveness of the displaced uterus to mechanical interference.—*Obstetrical Journal of Great Britain*, July, 1880.

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Medical Jurisprudence and Toxicology.

Poisoning by Tincture of Arnica.

Another fatal case of poisoning by tincture of arnica is reported from Italy. A man, apparently in perfect health, drank a quantity of tincture of arnica estimated at from two ounces to two ounces and a half. He immediately complained of a sensation of burning at the stomach. Bicarbonate of soda was given, and afterwards some aromatic tincture. By these his sufferings were relieved for some hours, but the pain subsequently returned, and he died thirty-six hours after having taken the poison. This case suggested some experiments as to the irritating character of arnica. An ounce of tincture of arnica was evaporated and yielded an extract, a little of which spread over the skin caused a papular eruption. A larger quantity produced vesication, just as does cantharides. The residue found in the stomach of the poisoned man, evaporated, and then applied to the skin, produced effects exactly the same as those caused by the evaporated tincture.—*Lancet*, July 10, 1880.

Poisoning by Bronze-Powder.

The coroner for Middlesex recently concluded an inquiry as to the death of a boy aged 13, which, it was alleged, arose from inhaling bronze-powder while employed at the printing establishment of Messrs. Clay, Son, and Taylor. Bronze-powder consists of an alloy of copper (in very fine powder) and is used in printing in gold. The printing is done by means of a mixture of size and gamboge, the powder is then dusted over, and the superfluous portion wiped off with wool. The boy mentioned to his parents that the powder got up his nose, and produced a tingling in his nostrils. On the fourth day of this work (June 10th), he complained of sickness and pain in the bowels. On the 13th, Mr. C. W. Latham was sent for to visit him; he was still suffering from sickness and pain, with great distension of the abdomen, and tenderness on pressure; no diarrhœa. He fell into a state of collapse, and died on the 18th. By order of the coroner, Mr. Latham made a post-mortem examination on the 22d, and found that death had resulted from peritonitis; the mucous membrane of the stomach and intestines was not affected. He removed the stomach and a portion of the liver, which were analyzed by Dr. Tidy, who found that both contained copper; and who gave it as his opinion that the deceased had died from the effects of metallic copper-poisoning, and that he had inhaled the poison in the process of bronzing. Evidence was given to the effect that it was customary in printing establishments where bronzing was going on for the persons engaged in it to be allowed a certain quantity of milk daily, owing to the dangerous nature of the work; and a lad named Grayling stated that, while employed on the same kind of work, he became ill, and was compelled to give it up in consequence. On behalf of the firm, evidence was given by persons in their service, who stated that they never experienced any ill effects while engaged in the bronzing process. Dr. Meymott Tidy suggested to the notice of employers: 1. The free use of milk; 2. That the persons engaged in bronzing should wear a covering over the nostrils and mouth; 3. That the bronzing should be carried out in a separate room, and not in the general workshop, in order as far as practicable to limit the injurious effects of the process; 4. That a dress composed of calico or like material, tied round the neck and wrists, should be worn by those engaged on the work, and removed before leaving the premises; 5. That cleanliness should be strictly enforced, and the persons engaged in bronzing required to wash themselves before leaving the premises. The jury returned a verdict in accordance with the evidence of Dr. Tidy.—*British Med. Journal*, July 24, 1880.

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MEDICAL NEWS.

School Hygiene.

After his summer's vacation the schoolmaster is again abroad in the land, and this seems an opportune time for us to call attention to one or two of the more important hygienic laws which are frequently neglected in the eager pursuit after knowledge, and for want of the wisdom which lingers far behind the pedagogue's track, are violated frequently in such a manner as to render scanty the return from his most earnest efforts or even blight utterly the harvest of his toil.

When an educational centre like Princeton College is managed in such flagrant violation of the dictates of sanitary science that typhoid fever (one of the eminently filth diseases of Mr. Simon) becomes rife within its precincts, proves fatal to its students, and necessitates the dismissal of its classes before the close of its regular term, the time has surely arrived for our profession to urge everywhere a more faithful attention to school hygiene.

One of the most important disadvantages to which the army of ten million American school children is subjected is the deprivation of sufficient pure air. In some of the worst schools the allowance of floor space has been reduced, by overcrowding infant pupils, to only two square feet, and the cubical air space to fifteen cubic feet per scholar. The average quantity of floor space allotted to each pupil should not be less than twenty-five square feet, and the air space ought to be at least two hundred and fifty cubic feet. In order to fulfil these requirements an apartment intended to be occupied by twenty-five scholars should be about thirty-two feet long, twenty wide, and ten high, and even then careful attention to ventilation and heating is necessary, or else impurity of the contained atmosphere during school hours will manifest itself not only to the sense of smell but in the languid and pallid aspect of the pupils. The presence of organic impurity from respiration to excess in the air of a school-room or other apartment can be quickly determined by Angus Smith's ready method of shaking half an ounce of fresh lime-water with ten fluidounces of the suspected air; when, if too impure for respiration, a milky precipitate is produced.

A greater danger of, however, a lesser evil lies in the tendency to produce myopia from want of sufficient amount or faulty direction of the light by which study is carried on. So much has been written on this subject of late that it is scarcely needful to more than remind our readers that the labours of Cohn, Erismann, Liebriech, and others, have demonstrated a

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direct connection between the increase of near-sightedness and improper or excessive study under imperfect illumination. The windows by which a school-room are lighted should occupy the wall of the apartment on the pupil's left hand, and correspond in area to one-fourth, or at any rate, one-fifth of the floor space. When it is difficult to obtain so full an illumination from the left side, part of the light may be allowed to enter from the right side, but illumination from in front of, or from behind the scholars, should always be avoided; class books of all kinds ought to be printed in large type, on clear, white or faintly tinted blue paper, and all punishments which involve prolongation of the hours of study had better be exchanged for the discipline of complete and wearisome quiet, or of some form of fatiguing gymnastic exercise. Enthusiastic pupils on the other hand should be cautioned against applying themselves too closely to their books at home, under the disadvantages of dim artificial light, or in constrained positions of the body or a recumbent posture.

Much injury to the growing organisms of children is often inflicted during school life by faulty construction of the desks and benches or chairs furnished for the pupils. A very injurious habit of stooping forwards, thus compressing the lungs, and of bending down the head in such a way as to favour congestion of the visual apparatus, is often brought on by the tops of the desks being too nearly horizontal. The proper inclination of a desk lid upon which rests a book, used for reading or study, is 40° or 45°, but this angle should be reduced to about 20° during the progress of a writing lesson. The seats occupied by the scholars should be so placed that their anterior margins are in perpendicular lines beneath the edges of the desks; they should be broad enough to fully support the thighs, and ought to be supplied with backs inclined only a few degrees from the perpendicular, and supporting the pupil's spine at a point one inch below the level of the desk for boys, and about two inches higher up for girls. Desks and benches ought always to be accurately adapted to the stature of the scholars.

The frequency with which contagious diseases are disseminated by means of schools can scarcely be calculated, and in fact the danger from this source is so great, and so constantly impending that stringent regulations for its reduction are urgently required. During the alarm concerning smallpox in Philadelphia last winter, an imperfect effort was made to require children attending our public schools to give proof that they had been successfully vaccinated before admission, but no systematic attempt has, we believe, been made in this country to prevent the spread of scarlet fever, diphtheria, whooping-cough, measles, etc., in this manner. Children convalescing from these and other infectious maladies are often returned to school in order that they may make up for lost time as rapidly as possible, or even because they are restless and troublesome at home, with abundant supplies about their persons of germ-disease poison which

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they sow broadcast among their schoolmates. Too frequently in the ignorance, carelessness, or feeble moral sense of guardians a slight benefit to the child is thus allowed to outweigh far-reaching injury to the community at large.

So great is the risk of serious or fatal disease being conveyed in this manner that we think private schools, where the principals require certificates from attending physicians to the effect that a returning convalescent is free from danger to other pupils, would be warmly sustained by the intelligent public, and when the value of some such precaution became recognized, as it soon must be, our authorities could doubtless ere long be persuaded to introduce it into all the primary and district schools of the land.

The importance of school hygiene can scarcely be over-estimated, because it is especially during their school life that our children acquire so large a part of the deformity and disease from which they suffer, and we have gladly embraced the period when, as at present, the minds of parents are directed towards the subject of school arrangements, to urgently invite attention to some of the more injurious, and, at the same time, more easily remedied defects, which mar the efficiency of our schools.

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Transposition of the Viscera.—The *Moniteur du Calvados* reports a case of complete inversion of the thoracic and abdominal organs discovered in a post-mortem examination of the body of a young girl aged 17, under the care of Dr. Denis Dumont, principal surgeon to the Hôtel-Dieu Hospital at Caen. The whole of the viscera, although of perfectly normal form and structure, had undergone so thorough a displacement, that those of the right side were lodged in the left, and *vice versâ*. The left lung presented three lobes, whilst the right lung had only two. The heart was situated on the right side, and the arch of the aorta was directed to the same side. The liver occupied the left hypochondrium; the stomach and the spleen had taken its place in the right hypochondrium. Finally, the intestinal mass had undergone an analogous transposition. The relations of the organs to each other were perfectly retained, so that this arrangement in no way detracted from the perfectness of their functions. It was a well-marked example of that monstrosity known as splanchnic inversion, of which several cases, both in the living and in the dead subject, have been recorded in medical literature.—*British Med. Journal*, July 10, 1880.

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Narcolepsy.—Under the name "narcolepsy" M. GELINEAU describes in the *Gazette des Hôpitaux*, a rare form of neurosis, characterized by an irresistible desire to sleep, sudden in its onset, lasting but a short time, and recurring at more or less prolonged intervals. This neurosis has some analogies with somnolence and catalepsy. It was described for the first time, in 1862, by Dr. Casse, who referred it to a serous and passive congestion of the meninges and of the brain. The persons suffering from it fall asleep any moment; their sleep lasts for a few minutes and they then recover their consciousness. The patient whose case is reported by M. Galineau fell asleep in this way four or five times during his dinner, letting his knife or fork fall, and breaking off in the middle of a sentence he was uttering. Up to the present time, the most varied kinds of treatment have not given any good result.—*Brit. Med. Journal*, July 31, 1880.

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Hydrophobia.—M. MAURICE RAYNAUD inoculated a rabbit with the saliva of a hydrophobic patient, and the rabbit took the disease in five days. Two other rabbits inoculated with hydrophobic saliva also became hydrophobic. The conclusion drawn is that the saliva of hydrophobic patients is virulent and that this fact merits more attention than is now generally given to it.—*Brit. Med. Journal*, July 31, 1880.

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Cod-Liver Oil and Iodoform.—Dr. FONSSAGRIVES having ascertained (*Progrès Méd.*, June 19) that the addition of iodoform and essence of anise effectually masks the repulsive taste of cod-liver oil, always employs this combination in cases where the union of iodine with cod-liver oil is indicated, iodine being conveyed into the economy in a larger proportion by means of iodoform than by any other preparation. Patients, after comparing this mode of taking cod-liver oil with the ordinary modes, unanimously declare in favour of the taste and smell of the former. To one hundred grammes of the oil a quarter of a gramme of iodoform and ten drops of the aniseed are added.—*Med. Times and Gazette*, July 3, 1880.

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Certification of the Correctness of Clinical Thermometers.—The Winchester Observatory of Yale College has undertaken, under proper regulations, to verify thermometers sent to the observatory and to issue certificates of the same in like manner as is now done at the Kew Observatory in England. Thermometers must be sent at the expense and risk of the sender. The charge for verifying a clinical thermometer has been fixed at fifty cents.

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International Medical Congress, London, 1881.—The International Medical Congress of 1881, will be held at London, August 3d to 9th inclusive. The Congress will be under the patronage of the Queen and Prince of Wales.

The work of the Congress will be carried on in fifteen sections. The meetings will be held chiefly in the halls of the University of London, and in Burlington House. Besides the general and sectional meetings, there will be a museum, to which contributions of professional interest will be made.

The executive committee have nominated the following as officers of the Congress: President, Sir James Paget, Bart., LL.D., D.C.L., F.R.S. Section I. *Anatomy*, President, Prof. Flower. Section II. *Physiology*, President, Prof. Michael Foster. Section III. *Pathology and Morbid Anatomy*, President, Dr. Samuel Wilks. Section IV. *Medicine*, President, Sir William Gull. Section V. *Surgery*, President, John Eric Erichsen, Esq. Section VI. *Obstetric Medicine and Surgery*, President, Dr. McClintock, of Dublin. Section VII. *Diseases of Children*, President, Dr. West. Section VIII. *Mental Diseases*, President, Dr. Lockhart Robertson. Section IX. *Ophthalmology*, President, William Bowman, Esq. Section X. *Diseases of the Ear*, President, William B. Dalby, Esq. Section XI. *Diseases of the Skin*, President, Erasmus Wilson, Esq. Section XII. *Diseases of the Teeth*, President, Edwin Saunders, Esq. Section XIII. *State Medicine*, President, John Simon, Esq. Section XIV. *Military Surgery and Medicine*, President, Surgeon-General Professor Longmore. Section XV. *Materia Medica and Pharmacology*, President, Professor T. R. Fraser, M.D.

Papers may be read in English, French, or German, and their authors are requested to intimate their intentions before the end of March, 1881, and to send an abstract of their papers before May 31, to William MacCormac, Esq., Hon. Secretary-General, 13 Harley Street, London, W.

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Society Meetings.—The American Gynæcological Society will hold its annual meeting in Cincinnati on the 1st, 2d, and 3d of September. The Canada Medical Association meets this year at Ottawa on the 1st of September.

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Connecticut Medical Society held its eighty-ninth annual convention at New Haven, May 26th and 27th, Dr. A. R. Goodrich, of Vernon, presiding. The following officers were chosen for the ensuing year: President, Dr. G. L. Platt, of Waterbury; Vice-President, Dr. Wm. Deming, of Litchfield; Secretary, Dr. C. W. Chamberlain, of Hartford. The next annual convention will be held at Hartford on the fourth Wednesday in June, 1881.

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Maine Medical Association.—This Society held its twenty-eighth annual meeting at Portland on the 15th, 16th, and 17th of June, Dr. S. C. Gordon, of Portland, presiding. A number of essays and reports of cases were presented. Dr. O. A. Horr, of Lewiston, delivered the annual oration. The Society's visitors reported the Medical School of Maine and the Portland School for Medical Instruction to be in a very prosperous condition. At the latter school two-thirds of the candidates were stated to have been rejected at the preliminary examination in June.

The following officers were elected for the ensuing year: President, William Warren Greene, M.D., of Portland; Secretary, Dr. C. O. Hunt, of Portland. The next meeting will be held on the third Tuesday in June, 1881.

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New Hampshire Medical Society held its ninetieth annual meeting at Concord, June 15th and 16th, Dr. T. J. W. Pray, of Dover, presiding. It was decided to hold the semi-annual meeting at Plymouth on the 2d of September, and it was stated that on the 3d the delegates and their families would be tendered an excursion upon Lake Winnepesaukee. The following officers were elected for the ensuing year. President, Dr. G. P. Conn, of Concord; Vice-President, Dr. H. B. Fowler, of Bristol; Secretary, Dr. M. W. Russell, of Concord. The next annual meeting will be held at Concord on the third Tuesday of June, 1881.

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Medical College of Virginia.—The friends of better medical education will be gratified to learn that the Medical College of Virginia and the University of Virginia have made a departure in favour of the elevated standard of medical education. They have instituted a graded course and extended the term to nine months, with an examination at the end of each year. While the condition of these institutions may not warrant any further change at this time, we trust that this step will speedily elicit sufficient encouragement to justify the authorities in instituting a preliminary examination, and adding a third year to the course. As it is the medical student should feel grateful at the improved facilities which are now afforded to him.

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Fiske-Fund Prize.—The Fiske-Fund Prize Committee of the Rhode Island Medical Society announce that, for 1881, a prize of $150 is offered for the best essay on either of the following subjects: "The Action of Medicine on the Cure of Diseases," and "Uterine and Ovarian Diseases as a Cause of Insanity."

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The Volta Prize.—The Volta Prize of 50,000 francs has been awarded by the French Government to Prof. Graham Bell, of Boston, for his invention of the articulating electro-magnetic telephone.

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Cammann's Binaural Stethoscope.—Mr. William Snowden, surgical instrument-maker of this city, has modified this form of stethoscope by adding a soft rubber cup to the chest end, which permits a more accurate application to the thoracic parietes, and soft rubber pads to the ear-pieces, which effectually exclude external sounds. The flexible tubes are freed from all woollen or silk coverings, and thus all friction sound arising from this source is avoided. These modifications, with also a change in the manner of applying the spring pressure to the ear-pieces, have resulted in a decided diminution in the cost of the instrument.

Personal.—It is announced that Dr. Sigmund, Professor of Syphilis in the University of Vienna, having reached his seventieth year, will retire upon a pension.

OBITUARY RECORD.—Died at Paris on the 8th of July, aged 56, PAUL BROCA, Senator and Professor of Clinical Surgery in the Paris Faculty. M. Broca acquired a world-wide reputation by his works on Aneurisms, published in 1856; on Tumours, published ten years later; and by his researches in Anthropology; indeed he may be said to have been the founder of that science. Concerning his important researches in aphasia the *British Medical Journal* (July 24, 1880) says: "The localization of the faculty of speech is one of the greatest discoveries of modern science. M. Bouillaud had shown that aphasia generally coincides with a lesion of the left hemisphere; but M. Broca, studying the anatomical lesion and the functional disturbance more minutely, demonstrated that aphasia is coincident with the destruction of a limited region of the encephalon—the posterior part of the third left frontal convolution. When that region is destroyed, speech is gone; so long as it is retained, speech remains. This is the rule—a rule almost without exception; and the exceptions even are far from incontestable. This was, as a matter of fact, one of the most interesting of scientific discoveries; it was, indeed, the first cerebral localization, and is at the present time the most precise and important. Since that time, the mechanism of the encephalon has been easier of comprehension. It is true that this mechanism is still very obscure, and of such a complex nature that it is difficult to conceive when it will be clearly and simply made out; but it is none the less true that, thanks to the precise determination of the aphasic lesion, it is known that there are regions in the brain where certain intellectual functions originate and become elaborated, to manifest themselves outwardly in the form of movements. The knowledge of this important and essential fact is due exclusively to M. Broca (*Bulletins de la Société Anatomique*, 1861).

—— At New Orleans, on the 2d of May, of pneumonia, SAMUEL CHOPPIN, M.D., aged 52 years. Dr. Choppin was a native of Louisiana, and was one of the founders of the New Orleans School of Medicine.

—— At London, on the 27th of May, in his seventy-fourth year, ALFRED SWAINE TAYLOR, M.D., F.R.S., late Professor of Medical Jurisprudence at Guy's Hospital.

Dr. Taylor had a world-wide reputation as an expert in all matters relating to medical jurisprudence and toxicology, and his works on "Poisons" and on "Medical Jurisprudence" are universally esteemed as standard authorities.

—— At Ramsgate, on the 27th of May, S. MESSENGER BRADLEY, M.D., one of the Surgeons to the Manchester Royal Infirmary.

To Readers and Correspondents.—The editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession. Local papers containing reports or news items should be marked.

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University of MICHIGAN

THE

MEDICAL NEWS AND ABSTRACT.

VOL. XXXVIII. No. 10. OCTOBER, 1880. WHOLE No. 454.

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CLINICS.

Clinical Lectures.

ON DIPHTHERIA.

A CLINICAL LECTURE DELIVERED AT JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

BY J. SOLIS COHEN, M.D.,

PHYSICIAN TO AND LECTURER ON CLINICAL MEDICINE IN JEFFERSON MEDICAL COLLEGE HOSPITAL, ETC.

GENTLEMEN: It is important that you should acquire as definite ideas as possible of diphtheria; and I therefore invite your attention to that disease, concerning which opinions are by no means uniform, despite the unusual amount of attention bestowed upon it, for the past twenty or twenty-five years, in the lecture-room, in the study, and at the bedside. It is at the bedside, indeed, in my own estimation, that we can alone clearly distinguish diphtheria from croup, with which it is considered identical by the majority of practitioners. The term diphtheria is misleading, derived as it is from διφθέρα, *a skin*, *a slough*, and thus applicable to indicate all conditions attended with local manifestations of pseudo-membranes. Croup is a more objectionable term still, as it is applied to a variety of disorders differing in their pathology; but, as it has become too thoroughly incorporated into medical nomenclature to be abandoned, it should be confined to indicate a peculiar sthenic inflammatory affection of the air-passages—the upper air-passages especially—in which the main local manifestation is the development of false membrane upon the mucous surface of the larynx, and in which the main danger to life is the mechanical one due to accumulation of the false product to such an extent as to produce death by actual suffocation, or want of due oxygenation of the blood by prolonged impediment to respiration.

If the term croup be retained as synonymous with diphtheria, which it is not, and be applied to all affections of the air-passages attended with the production of false membrane, then, it appears to me, we are able to distinguish four varieties of croup. Firstly, *true croup*, *sthenic croup*, *idiopathic croup;* purely inflammatory in the usual acceptation of the term, sporadic, non-contagious, and manifested almost exclusively in

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children. Secondly, *systemic croup, the croup of diphtheria*, a condition similar to the first variety, but engrafted upon diphtheria; a specific disease, endemic and even epidemic, though likewise sporadic; contagious; manifested in individuals at every stage of life; and accompanied by peculiar nervous and glandular manifestations which demonstrate its systemic character. Thirdly, *deuteropathic croup*, manifested in some cases of phthisis, syphilis, typhoid fever, and the exanthemata; and, fourthly, *traumatic croup*, due to the local action of boiling water, steam, ammonia, acids, vesicants, corrosive sublimate, mechanical injuries, foreign bodies, and so on.

In all these varieties the false membrane is diphtheritic in the sense of being adventitious; but its presence does not stamp the disease as diphtheria. Diphtheria may exist, indeed, aye, and be fatal too, without any detectable manifestation of false membrane during life or after death. So, therefore, as the idea of true croup is associated with the essential production of false membrane, or its equivalent in a less dense product, we shall be willing to speak of the croup of diphtheria when the presence of the croupous manifestation justifies the expression. Neither microscopically nor chemically can we detect any essential difference between the false membranes of croup and of diphtheria.

Diphtheria, gentlemen, in its typical form, is an adynamic, constitutional, disease, due to specific though not well ascertained causes, and attended with a local pathological manifestation in the form of exudative deposits upon the mucous membranes and upon abraded cutaneous surfaces. It is quite probable that the deposit always commences upon an abraded surface, even on the mucous membrane, because of the catarrhal condition of the nose, throat, and air-passages which precedes the local manifestation.

The mucous membranes especially susceptible to the local deposit are those of the uvula, palate, tonsils, and pharynx. Thence the deposit is liable to extend to the larynx, trachea, and bronchi; to the nasal passages and the interior of the ear; to the various sinuses in communication with the nasal passages; and to the œsophagus and stomach as may be. It is generally believed that certain minute vegetable organisms, emanating from water and air contaminated with refuse, gain direct access to the pharynx and air-passages in eating, drinking, and breathing; and locally poison the system. These organisms are very abundant during diphtheria, but they are quite abundant in every form of sore throat in which morbid products accumulate, and are even present in the healthiest state. Hence it is improbable that they are the sole cause of diphtheria, though diphtheria provides a favourable condition for their development. It is even believed by some pathologists that these minute organisms bore their way mechanically into the organs and bloodvessels and thus poison the system directly, as well as indirectly by decomposition. In the absence of direct demonstration to the contrary, we must be content to believe that the proximate cause of diphtheria has not been detected. The remote cause, or susceptibility of the disease, appears to reside in constitutional debility, or at least impaired vigour, for it is rarely that a robust individual is attacked unless enfeebled by overwork, anxiety, self-indulgence, or something else. Subjects of sore throat are especially liable to contract diphtheria, particularly if their mucous membranes be denuded of epithelium. Hence, perhaps, its liability at times to follow upon the sore throats of the exanthemata. It has long seemed to me impossible to account for the immunity of certain individuals under influences identical with those attending the development

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of the disease in other inmates of the household, without acknowledging that there must be some special condition of system favourable to the development of diphtheria. A remarkable exemplification of this opinion has recently become historical in the outbreak of diphtheria, less than two years ago, in the family of the Grand Duke of Hesse Darmstadt, the son-in-law of Queen Victoria, in which not a single member of the numerous household retainers were attacked, although several members of the family succumbed. The grand-ducal family, likewise, are now known to have been subject to sore throat.

An incubating period usually intervenes between exposure to the infection of diphtheria and the manifestation of the disease. This period varies, as a rule, from two to five days, but it is by no means definite. Then the throat becomes sore under more or less febrile manifestation, and before many hours a deposit of some kind may be detected at some portion of its surface; and in the great majority of cases in which the air-passages proper are about to become involved, the deposit may be observed on the epiglottis or in the larynx within twenty-four or thirty-six hours. It must be borne in mind that I am describing the usual course of the disease, and that every case you see is likely to differ somewhat from every other case with which you may come in contact. The sore throat will be accompanied by swollen cervical and submaxillary glands, because the sore throat in diphtheria is parenchymatous, deep-seated, involving the submucous connective tissue; consequently the lymph-spaces which begin in the meshes of this tissue become implicated, and convey the irritation to the lymphatic ducts and glands with which the affected portion of the throat is in anatomical connection. One reason why these swollen glands are not observed in true croup, as the rule, is because they are not in anatomical connection with the larynx, and are thus unaffected until the pharynx or tonsils become involved.

The acute febrile phenomena sometimes subside as these local manifestations progress, and sometimes coalesce into fresh ones due to the systemic irritation produced by extension of the local product. This local product appears at first as a lymphous material on some portions of the uvula, palate, tonsils, or pharynx; frequently on one side only, sometimes on both. It is usually coagulated into small whitish or gray specks, more or less translucent and soft at first, but soon becoming opaque and tough. These specks increase into patches of irregular shape and distribution, occasionally amounting to extensive casts upon the surface. These products are the false membranes. They become darker in colour and in consistence; and after remaining *in situ* three, four, five, or more days, gradually exfoliate from periphery to centre, leaving the mucous membrane intact or merely hyperæmic. When forcibly removed, the mucous membrane may be bloody. Their disappearance may be followed and refollowed by successive reproduction of similar products.

Sometimes the false membrane compresses the capillary bloodvessels to such a degree as to obstruct the circulation; and sloughs occur at points nourished by these vessels. This is the gangrenous form of diphtheria, the cadaverous odour of which is sometimes characteristic.

The constitutional disturbance varies greatly, and is often an index to the prognosis. An elevation of temperature of from 4° to 7° F. indicates a probability that the deposit will invade the respiratory tract; and in some instances the extension and persistence of the deposit varies, proportionately, with the temperature. Wakefulness is frequent, and with

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restlessness at night, often heralds delirium and convulsions in children. The pulse becomes accelerated to 120, 130, or 140 per minute, and usually without the customary proportionate increase in the number of respirations, as is the rule with sthenic diseases. Hence this point sometimes becomes a good bed-side reference in distinguishing true croup from diphtheria. Nor is the pulse apt to be firm and hard, as in simple inflammatory affections; but it is soft, puffy, even, and compressible. The appetite usually fails early in a well-developed case, and this may be succeeded by gastric and intestinal irritation, even amounting to vomiting and diarrhœa. The urine becomes scanty and of high specific gravity, often with various evidences of active renal disease. Albuminuria is frequent, and the quantity of albumen varies from time to time, sometimes amounting to from one to three drachms in the twenty-four hours. The amount of albumen is often indicative of the severity of the attack; and as albuminuria is an infrequent manifestation in true croup, its existence becomes an additional clinical distinction between the two affections when the larynx becomes implicated. Extension of the local lesion to the larynx is indicated by hoarseness, cough, and dyspnœa; the latter in part due to inflammatory swelling, and in part to paralysis of the dilator muscles of the larynx, as well as to the accumulation of the morbid product. Now, too, tumefaction may take place in the lymphatic glands below the hyoid bone, by extension of irritation in the lymphatic vessels in the epiglottis and upper portion of the larynx. The fever increases as the morbid process progresses; respiration becoming more frequent and difficult, and requiring the aid of the auxiliary muscles. Inefficient aëration of the blood becomes indicated by pallor of the face, lips, and nails, and coolness of the extremities; and if the dyspnœa increases, the soft tissues below the sternum, above it, and between the ribs, become deeply depressed at each inspiration, by the pressure of the external atmosphere. The voice and the cough are muffled. All the symptoms just described indicate the approach of asphyxia, unless relief is procured by the spontaneous or artificial discharge of the exudative products.

Symptoms of subsidence of the attack become manifested in favourable cases, at a period varying from the eighth to the fourteenth day, and convalescence commences, accordingly, during the second or third week.

In cases of profound blood-poisoning, the usual adynamic symptoms become superadded; and death from asthenia is apt to ensue in from two to four days after their onset, if the conditions cannot be combated. Ecchymoses, purpura, erythema, and irregular cutaneous eruptions are sometimes manifested in this condition. Should recovery take place, convalescence is rather slow, as a rule.

Recovery is rare in gangrenous cases, and may be followed by irreparable injury from actual losses of tissue and vicious cicatrizations.

It is thus evident that the prognosis is grave in diphtheria. It is impossible to predict safety, even in mild cases; while recovery may occasionally follow the most unpromising manifestations. The vigour of the patient, the character of the epidemic, the hygienic surroundings of the patient, and the efficiency of the nursing attendants, all have their influence. Complications with other diseases are unfavourable. During the first week the danger is from involvement of the larynx, and, this period passed, it then lies in the exhaustion of the system. High temperature, a rapid and feeble pulse, loss of desire to take nourishment, excessive albuminuria, great prostration, irregular eruption, local hemorrhage,—all are symptoms of unfavourable augury.

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How, gentlemen, are we to manage our cases of diphtheria? This is the all-important question. We cannot cure it. It has certain stages of evolution through which it must pass, which no specific can arrest; and our duty is to guide the patient through them as safely as may be, and sustain him if we can. Some cases recover spontaneously, there is no doubt, but we can rarely trust to the unaided efforts of the system. The two main indications, in my estimation, are to keep up a supply of nourishment and stimulants, and to provide for the detachment and discharge of the morbid accumulations when they threaten to occlude the air-passages. Depleting measures, formerly recommended in croup, are no longer resorted to in diphtheria;—another clinical point, to my mind, strongly indicative of systemic difference between the two affections. We must bear in mind, as I have indicated, that there is an adynamic blood disease to be resisted, and a local product to be watched. Let us discuss these two points separately. The blood is the liquid flesh, so to speak, in which all recuperative power resides. The healthier the condition in which it can be maintained, the surer the prospect of recovery from the disease. Hence efforts should be made to regulate all contaminating influences that are within our control. We should provide for systematic disinfection of the sick-room in particular, and for disinfection of the whole house likewise. This can be done by the free use of sprays of carbolic acid, or of sulphurous acid. Solutions of sulphate of iron or some other disinfectant should be kept in all the vessels to be brought into the sick-room to receive the discharges, soiled clothing, refuse food, and slops of the patient. In this way we guard against additional contamination of the poisoned blood from the emanations and discharges of the patient himself. At the same time, too, and what is of the utmost importance prophylactically, the attendants of the patient and the remaining inmates of the household are protected in part from direct contagion, and from impairment of reserve vigour, which might render them particularly liable to that contagion.

As to the patient himself, assiduous cleansings of mouth, throat, and nasal passages, should they become fouled from retained secretions, with ample supplies of digestible food, and the administration of a tonic remedy, than which none, perhaps, is more serviceable than tincture of the chloride of iron, will be all that will be required anterior to the appearance of the local morbid product; unless there should be such indication of profound septicæmia or collapse, which would call for large doses of quinia, or alcoholic stimulation, respectively.

And right here, gentlemen, let me direct your attention to a significant clinical fact, the truth of which you can verify by your own studies and observation. It is this: Chlorine compounds, whether administered internally or applied topically, are more frequently efficacious in diphtheria than any other remedies. Read the records of writers and you will see extolled tincture of the chloride of iron, which I place for you in the first rank, chlorate of potassium, chloride of ammonium, chloride of mercury, chlorine mixture, hydrochloric and nitro-hydrochloric acids. Other remedies, similarly extolled, have this in common with the chlorides, that they have disinfectant properties. This adds to the list, sulphurous acid, sulphites and hyposulphites, carbolic acid, benzoate of sodium, and other drugs of similar qualities. But it is not my intention to enumerate the various modes of treatment lauded in diphtheria. The vaunted success in many instances has been due to the misapprehension that prevalence of

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common membranous sore-throat was prevalence of diphtheria. It will suffice to fix your attention upon those remedies which in my judgment are most entitled to confidence. We return, then, to the tincture of the chloride of iron. It must be administered at frequent intervals and in large doses. The object is to make as profound a beneficial effect on the health of the blood as practicable. Hence, we give from five to twenty or even thirty drops, according to the age and vigour of the patient, *every second hour, hour, or half-hour.* It may be given in glycerin and water, or in diluted syrup of lemon, or in any pleasant way with which you may become acquainted. It is quite probable that the alcohol in this preparation has some beneficial influence, constitutionally: for, as will be stated to you presently, alcohol is of the utmost efficacy once the constitutional vigour begins to manifest rapid or steady deterioration. The frequent deglutition of this remedy, in addition, brings it in frequent contact with morbid products accumulating upon the deglutitious tract; and exerts a desirable physical impression upon those products, akin to that specially sought for, when, as I shall mention shortly, it is resorted to as one of our most trustworthy agents in topical medication.

Chlorate of potassium is extensively administered as a constitutional remedy in diphtheria; frequently in the form of *the chlorine mixture*, which is prepared with an equal number of grains of the chlorate and of drops of hydrochloric acid in plain or aromatic water, infusion of quassia and so on. The dose of the chlorate varies from two to fifteen grains according to the age of the patient, every third or second hour, or more or less frequently as may be. It is quite common to combine this remedy with the tincture of the chloride of iron, and in the same mixture. A better plan is to have the two drugs prepared separately and then combine the mixtures at the bedside, so that the quantity of one drug may be varied if required, without affecting the dose of the other. Let me caution you about an immoderate use of chlorate of potassium. Look out for evidence of renal irritation, and suspend its administration until such untoward symptoms subside. In view of the normal tendency to albuminuria and to renal disintegration in diphtheria, it is important that no abnormal load be laid upon the kidneys whose excretory offices are fully taxed as active participants in the elimination of the poison from the system. The local action of the chlorate of potassium on the mouth and throat, and its excretion through the salivary and pharyngeal mucous glands enhances its efficacy as an internal remedy in diphtheria. It may be given in lozenges or in compressed pills, and allowed to dissolve slowly in the mouth so as to prolong its contact with the diseased surfaces.

Quinia is a remedy much employed in the treatment of diphtheria; in part as a tonic, in part as an apyretic, in part as a neurotic, and in part as an antiseptic. As it is desirable to combine important remedies when practicable, to avoid too frequent dosing, and as chlorine compounds seem to be especially serviceable in diphtheria, in fact in affections of the respiratory organs generally, I prefer the hydrochlorate of quinia to the sulphate. It is fully as efficacious, incomparably more soluble, and can be manufactured at much less expense. It is given in decided doses until there is abundant evidence of constitutional impression. When deglutition is painful or difficult, it may be given by enema; with proper augmentation of the dose. Under similiar circumstances, it is better to persevere in giving the iron and potassium by the mouth, as their topical effect upon the throat is of certain significance.

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Alcohol in the form of strong wine, or as brandy or rum, is of the utmost importance when the system begins to give way; and its free administration should not be delayed after the earliest manifestations of decided loss of vigour. At this stage it is of more importance for the time being than any other remedial agent. From half a drachm to an ounce of brandy or its equivalent, proportionate to the age of the patient, may be given at suitable intervals to keep up the effect, be the intervals three or four hours or but fifteen minutes. Indications for its continuance or suspension will be promptly afforded by the general condition of the patient. As long as it is well borne, it may be given to any extent appearing necessary, short of producing actual alcoholic intoxication, especially so when sufficient nourishment cannot be taken. Children readily take a sort of syrup of brandy made by burning it beneath a lump of sugar which becomes melted in the process.

Though other internal remedies are often valuable in diphtheria, especially under varying circumstances, I feel like stopping with the short list just commented on. It is proper, however, to mention a new treatment, highly lauded of late years in Teutonic Europe, but not sufficiently endorsed at present to justify unqualified approval. It consists in the administration of large doses of benzoate of sodium, the use of which is based on the opinion that it arrests the development of the diphtheritic cryptogamia. As considerable attention has been directed to this subject, which has not yet become incorporated into general professional literature, it may be well to mention the formulæ used by Letzerich the promulgator of the method. Five grammes of pure benzoate of sodium are dissolved in forty grammes each of distilled water and peppermint water, to which are added ten grammes of syrup of orange-peel. To infants less than one year of age, two teaspoonfuls of this mixture are given every hour; to older patients the mixture is given in tablespoonful doses, the amount of benzoate of sodium being increased from five to seven or eight grammes for children from one to three years of age; still further increased to from eight to ten grammes for children between three and seven years of age; still further increased to from ten to fifteen grammes for children above seven years of age; and increased to as much as from fifteen to twenty-five grammes for adults. In addition to this internal administration of the drug, the false membranes are dusted over with powdered benzoate of sodium, two or three times a day in mild cases, and every three hours in severe ones. The drug is also administered in gargles; a five per cent. solution being sufficient for older children. I have no experience with this treatment, nor any personal knowledge of it whatever.

I may add, too, a few words as to carbonate of ammonium, sometimes a remedy of great value at moments of sinking. From two to ten grains may be given in syrup of acacia, or other vehicle, to be repeated whenever indicated; and in case of difficulty of swallowing, it may be administered by the bowel in quadruple quantity. In cases of threatening accumulation of fibrin in the right heart, large doses are indicated theoretically on the basis of observations which have shown that its admixture with blood preserves the fluidity of the latter for some time. It is possible, too, that intravenous injections of the solution of ammonia may be resorted to with temporary, if not with permanent benefit at moments of collapse; but I have no data in illustration of the value of the inference.

What shall be done for the sore throat? what for the swollen and painful glands? Pellets of ice placed in the mouth, and renewed more or less

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continuously, are as grateful and soothing a means of local relief as lies at our command. Iced compresses are used externally by some prominent practitioners; but they cannot always be employed with impunity; and their use should be discontinued if not promptly serviceable. It is often better to apply warm cotton-batting, spongio-piline, or an actual cataplasm. Inunctions with oil, lard, cosmoline, are often useful; care being taken to use nothing which might favour abrasion of the cuticle, lest local infection further complicate the disease. Great pain requires the use of morphia in effective doses by stomach, bowel, or skin, as may be most available. Prompt discharge of the morbid products as they accumulate has been indicated as an important object in the management of our case of diphtheria. How shall this be secured? Shall it be by removing them bodily whenever they are favourably located for detachment and withdrawal? To those who regard the local product and its extension as the more important feature of the disease, such a method seems highly desirable. If there be a circumscribed patch, undergoing spontaneous detachment, there can be no objection to its extraction. Indeed, its removal is indicated, as getting rid of effete material, the decomposing elements of which are being drawn into the lungs at every inspiratory movement; thus adding additional contamination to the blood.

It is quite possible, in favourable cases, to keep the morbid product diffluent by maintaining a warm and equable temperature in the sick-room, which should be well ventilated without exposing the patient to direct currents of air, and providing an excess of humidity of the atmosphere by hanging wet cloths around, or keeping up a moderate evolution of steam near the patient. The moister the products, the more readily they can be expectorated. When they remain dry and adherent, there is no objection, if fully within the reach of instruments, in making an attempt, by a thorough topical medication, to arrest their further progress, and thus remove the local source of danger; but should the first application fail in this object, no repetition should be made. The practice of cauterizing the uninvaded tissue is reprehensible, because the local product is likely to appear on abraded surfaces. Of all the local agents of which I have any bedside experience, the tincture of the chloride of iron has been by far the most efficacious. It should be applied with a swab of cotton or sponge, which is pressed with considerable firmness against the pseudo-membrane, so as to favour thorough contact. After the application, attempts should be made by gargle, spray-douche or syringe, to remove the deposit; but forcible removal is not judicious, unless it is already partially detached. Lime-water is the best solution to use in the douche or syringe. So much for the accumulations in the pharynx and nasal passages.

When the larynx becomes invaded, then the best plan I am familiar with is to keep up a constant evolution of steam passing over the face of the patient; and, in addition, to slake a few pieces of lime the size of the fist, by the bedside every hour or two, or whenever the respiration becomes obstructed; covering the vessel with a hood of stiff paper, so as to direct the steam and particles of lime towards the mouth of the patient. I do not subscribe to the opinion that the lime vapour is capable of dissolving the membranes *in situ;* but I believe that the particles of lime inhaled act mechanically, becoming insinuated beneath them at numerous points, and thus affording minute inlets for the watery vapour, which detach them, and facilitate their expectoration by cough.

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The use of emetics is indicated in children, to provoke expectoration from the air-passages in the act of vomiting; but the same indication does not occur in adults who are able to expectorate voluntarily. If successful, the emetic may be repeated at intervals of six hours as long as the indications continue or recur. Alum, ipecac, and turpeth mineral are the most reliable agents, and may be tried in the order named; adhering to the alum if it prove efficient. Emesis should not be carried too far, or be repeated if ineffectual, as it exhausts the power of the system without any compensation in the discharge of morbid products.

Should asphyxia be threatened from accumulations in the larynx or trachea, tracheotomy is indicated; and, though most frequently unsuccessful in averting death, it facilitates due access of atmospheric air to the lungs, and often saves lives that would otherwise be lost.

The most careful attention is required after tracheotomy, to keep the artificial passage clear. The stimulating treatment and the lime inhalations should not be discontinued.

The two main indications for favourable prognosis after tracheotomy, are desire for food, and ability to expectorate. All treatment should be subservient to facilitating these great ends.

Paralytic sequelæ sometimes follow diphtheria. They are to be managed on general principles; and they usually subside without leaving permanent traces.

ON MENORRHAGIA.

A Clinical Lecture.

By J. MATTHEWS DUNCAN, M.D.,
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Gentlemen: It is a matter of course that I shall go over this subject as we have seen it illustrated in "Martha," or as I see it illustrated in my own practice; and I say this, because, if you look into the books, you will see descriptions of menorrhagia as divided into two kinds—active and passive. I know nothing of this distinction. You will find also a distinction drawn according as the discharge is of menses or of blood; but I know nothing of this distinction. I know of menses, and I regard slight losses of blood from the interior of the womb as the same thing as menses in physical characters. Then, again, you will read in books accounts of symptoms. I know of no symptoms except such as are produced by loss of blood; that is to say, I know no special, still less any essential, symptoms of menorrhagia, as distinguished from any other loss of blood.

In all your studies, with a view to practice, I urge upon you the importance of attending to the theory of nomenclature, because a great deal of misleading arises from neglect of this. It is well known to be a common proceeding with inferior practitioners to treat a disease according to its name; but the dangerous influences of nomenclature spread wider than the narrow limit of bad practitioners. The best names given to diseases are, upon the whole, those that have no meaning, that imply nothing but a name; these are the least misleading. A common mode of naming a disease is, as in the example before us, from its chief symptom. Menorrhagia is, for many, a name for all cases where there is too copious a loss of blood at monthly times. But you have here an illustration how much or how little may be conveyed by a name, for a disease which is, in many cases, essentially a menorrhagia, is called hæmatocele; and if you are to have a

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correct view of this great disease you must keep in mind that in a great number of cases it is a menorrhagia, as you have already learned from cases you have seen in "Martha."

Menorrhagia and metrorrhagia are, in the immense majority of cases, not truly names of diseases, but names of symptoms; and, in such cases, it is very important to keep this in mind, because it is upon this knowledge that your treatment is founded.

A very important part of this lecture I devote to what menorrhagia is not. Many of the things that it is not I shall merely mention; others I shall speak of at greater length.

When you are called to a case, all the diseases I shall name should be made to run through your mind; for, as I have already told you, if you do not think of the diseases, any of which a case may be, you are very unlikely to diagnosticate the case properly; so seldom is a direct mode of diagnosis available.

If a woman has menorrhagia or metrorrhagia, she may have a threatened abortion, or a threatened miscarriage, or a polypus. She may have a uterine fibroid, a uterine cancer, or merely a catarrh of the neck of the womb, or an abraded condition of the neck of the womb which may be confined to that part or spread beyond it. But there are more recondite conditions which you must also keep in mind when you are diagnosing a case in which there is menorrhagia or metrorrhagia.

One of these is endometritis, of which loss of blood is a symptom, sometimes called pseudo-menstruation. A case, probably of this kind, where the discharge lasted fourteen years, a few days ago ran away from "Martha," being forced to do so to look after her husband. That case was probably one of fungous or hemorrhagic endometritis; but the diagnosis was not completed. In many cases, as you have often seen illustrated, perimetritis and parametritis induce pseudo-menstruation, probably by producing congestion, if not inflammation, of the mucous membrane of the cavity of the body of the uterus. This spreading of irritation to neighbouring organs is not confined to the uterus, for you frequently observe it in the case of the bladder. The bladder may be distorted into any shape, squeezed up into any corner, without any vesical symptoms being produced; but in cases of parametritis and perimetritis it is a very common occurrence to have irritable bladder; the irritation being communicated to the slightly displaced and confined organ from the neighbouring inflammation. Ovaritis, of which you have seen many cases in "Martha," is very often accompanied by prolonged menstruation; and in most cases tenderness of the cavity of the body of the uterus indicates that there is a degree of endometritis accompanying the ovaritis. Vaginitis of certain kinds, as I pointed out in a recent lecture, is not a rare cause of loss of blood; and other morbid conditions of the vagina produce what passes as menorrhagia. A rare case of this kind is well worth mentioning. I was called in, not long ago, to a young lady about twenty-five years of age, who was with very great difficulty induced to seek advice for what she herself and her physician regarded as a very insignificant menorrhagia. She was never well. Ordinary remedies having completely failed, she very properly submitted to a vaginal examination, and on the middle of the posterior wall of the vagina there was detected a small growth, soft and about the size of a split tea. It was not tender, but it had a suspicious feeling which I find it impossible to describe. As soon as it was ascertained that it was growing I destroyed it by a strong caustic. At that time there was no disease discoverable but this little tumour; but within three months the patient was dead from a cancer of the whole of the lower part of the pelvis, which began in the way I have mentioned.

A very important source of deception I must now mention and impress upon

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you, because it is not generally known. Bleeding often takes place from surfaces which are merely tender—which can scarcely be called diseased. These are found around the orifice of the urethra and that of the vagina. In one sense, cases of this kind—and they occur both in young and old—are very trivial; but, if you consider the anxiety of mind and annoyance caused by such loss of blood, you will see that it is important; and, for the success of a practitioner, such cases may be critical. I can best illustrate this by cases. A young sterile married lady consulted me for what she called menorrhagia, which never came on while she was at rest, but only when she walked. She had confined herself to the sofa to restrain it. When she consulted me I could find nothing the matter with her. At my wits' end, I insisted upon her walking and coming to me while the bleeding was going on. It was then, for the first time, that I made quite sure that she did bleed, and I found the bleeding slight in amount, and coming from around the orifice of the urethra. Now, this kind of loss of blood is still more alarming in an old woman, for reasons you well know, and I have in several such cases been able to set a patient's mind at rest by seeing the blood running from tender spots around the urethral or vaginal orifices. This is not new to you, for I have pointed out to you examples in "Martha," in which, when those parts were visually examined, there was a little bleeding from the mucous membrane of the orifice of the vagina. In some this results from walking, in others from no discoverable cause. In all it has been cured by mild astringent lotions to harden the parts. Another source will occur to you in newly married women. The husband will come to you, saying that his wife is menstruating profusely, and you find that this arises from lacerative injury due to sexual connection. Varicose veins in the vulva are not very rare in women who have had large families, and sometimes they occur even in sterile women. They may burst or be opened by injury, and the bleeding from them is sometimes fatal.

Now, all these conditions that I have gone over are very naturally confused with menorrhagia and metrorrhagia until a careful diagnosis is made; and sometimes this careful diagnosis is never made, and the case is mismanaged, or, if well managed, it is a matter of mere good luck, not of intelligent skill.

Before going further I must tell you the distinction of menorrhagia from metrorrhagia; or, rather, I must tell you the want of distinction, for that is as important as the positive side of the matter. A case is one of menorrhagia, and this includes an important class of diseases, when there is nothing to account for the excessive loss of blood, and when there is every reason to presume that the bleeding is menstrual—that is, from the interior of the body of the uterus, at the usual monthly times, and with the usual menstrual symptoms. If you have all these conditions combined, the case is then justly named menorrhagia. When you have absence of indications that the bleeding accompanies ovulation, then you call it metrorrhagia; but the distinction is not really of great importance. In no case is the distinction scientifically sure, but in many it is, for practical purposes, sure enough, and when it is made out it helps you to be an intelligent practitioner in any particular case.

Suppose, then, that you have a case of this kind before you—one that is not to be passed over by writing a prescription and talking to the patient, as very many are—you must then inquire into the following particulars carefully and minutely. First, as to the quantity lost. With regard to this every individual is, to a great extent, a rule for herself. What in one woman would be menorrhagia would in another be classed as amenorrhœa; so great are the variations within the limits of health in different women. Indeed, it would be difficult to say that there is any certain limit as to greatness of quantity except that of influencing the general health. I have seen many cases described as alarming menorrhagia in which it was only necessary to inspect what came away in order

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to make them appear ridiculous. You must not treat a case for long without seeing the discharge for yourself to judge its amount. A common way of measuring the quantity is by the number of cloths a woman requires during twenty-four hours. Second, the presence of clots and the size of the clots must be inquired into. Third, the time during which the flow goes on is important, for you can easily see that length of time may make a common menstruation of the utmost importance. Within moderate limits, in respect of time every individual is a law to herself. Fourth, you inquire into the quality of the discharge, not only as to the presence of clots, but as to whether it is decayed blood or not, bright red, or chocolate-coloured, or like coffee-grounds. With regard to this brown blood, you must remember that a very small clot will, by gradually dissolving, stain for a long time the mucous discharges from a patient, and may deceive her into thinking that she is continually losing blood, whereas the whole matter, intelligently regarded, may be quite insignificant. Then, fifth, you must inquire into the interval or time of recurrence. And, such is the extreme anxiety—the injudicious over-care of themselves, manifested by many women, and by many mothers—that you will often be consulted about cases called, or held to be, menorrhagia, where the recurrence is only a few hours or a day or two before the time regarded as proper; and I must ask you not to yield yourselves as abettors of any such nonsense, while at the same time you do not fail to be kind and considerate of the feelings of your patients. Such a variation is not a morbid condition, and is not to be treated by drugs. But if the recurrence is greatly in advance of the usual and proper time, then you may have to consider the whole circumstances of the case with a view to its proper management or treatment. Lastly, a most important particular is whether the loss is injuriously affecting the woman's health; it may do this without producing evident anæmia; if it does also produce anæmia, there is no need of further proof that it is producing constitutional mischief.

When you are considering the pathology of a simple menorrhagia or metrorrhagia, what points are you to study? You think of congestion of the uterus or of increase of the blood-pressure; and you may be sure that whatever part is weakest under the influence of blood-pressure will be the first to yield. In most people, especially in youth, the Schneiderian membrane is the weakest part, and yields. In old people this yielding of the Schneiderian membrane, and consequent epistaxis, is often an extremely fortunate occurrence, saving them from the disastrous effects which are sure to follow the occasionally alternative yielding of some atheromatous vessel in the brain. Many cases of menorrhagia and metrorrhagia at all periods of life are no doubt analogous. Congestion of the uterus occurs periodically, as you know, in the menstrual periods of women; it occurs occasionally in the old, and also in the very young. The spurious menstruation of infants almost certainly depends upon a uterine congestion, very like that which occurs in adult women—a curious pathological condition which has its analogue in the congestion, secretion of milk, and sometimes even abscess in the mammæ, of infants.

Then you think of relaxation of the uterus. On examining women who are menstruating, the uterus is found to be bulky, soft, and its os somewhat more open than usual; and this condition may proceed to an exaggerated degree in menorrhagia and metrorrhagia; indeed, in some cases there is, even in the virgin uterus, a dilatation of the whole uterus much beyond its natural dimensions, and the formation of a soft clot in its inside. This dilatation occurs more frequently in women who have had children than in those who have not; but its occurrence, even in virgins, has been verified post mortem, and in such cases the presence of the clot in the uterus, if it is at all long retained, becomes a source of irritation, and leads to persistence of the bleeding.

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Next, you must think of the state of the blood; and this important subject I must dismiss in a few words. When a woman is chlorotic she fortunately has generally amenorrhœa; but if not, she will be very liable to have menorrhagia. And you have here an illustration of a vicious pathological circle. The menorrhagia increases the chlorosis, and, *vice versâ*, the chlorosis aggravates the menorrhagia.

Lastly, the condition of the bleeding surface must not be neglected; and it is almost certainly very different in the young from what it is in the old. In the former you have probably a very much healthier tissue-condition than in the latter. In both, no doubt, you have the bleeding surface in a state of partial denudation; and in the old you probably have other senile conditions added to the state of superficial denudation which occurs in all menstruating women. In fatal cases the mucous membrane of the cavity of the body of the uterus has been found sometimes partially separated, and it has also been found to contain small disseminated ecchymoses.

Now for an enumeration of the varieties of true menorrhagia.

In the very young you are liable to have it with the first appearance of the menses. I have seen a young woman, who ever afterwards menstruated naturally, at the point of death from excessive hemorrhage at her first menstruation. In some fatal cases there has been noticed a condition of scorbutus or of hæmophilia.

In the newly married you find a common menorrhagia arising from the recent marriage. The woman supposes herself to be pregnant, passes her usual time a period of weeks or even months, and then has a profuse menorrhagia, which she takes for a miscarriage; and you must be on your guard against the peculiar pride of sterile women, who boast of this as a miscarriage, in order, apparently, to save themselves from what they consider the discredit of absolute sterility. Unless ovuline structures have been seen in the discharges, the evidence of miscarriage is deficient.

In mature, healthy women, menorrhagia is very rare, except as the result of some constitutional affection—the commonest causes being excessive childbearing and suckling, both of which probably act by producing a watery condition of the blood, which flows freely from an ill-contracted uterus. It is at this time of life chiefly that you see illustrations of general constitutional affections producing menorrhagia. Obstructive diseases of the heart, of the lungs, of the liver, as they are liable to lead to other hemorrhages, may naturally be expected to lead to menorrhagia or metrorrhagia. I am bound to say, however, that in practice I have not been able thoroughly to satisfy myself of this influence, except in the case of the liver.

A pregnant woman may have a menorrhagia. This I merely mention. It occurs mostly, if not exclusively, in the first months, and may recur for two or three months. Then, in women recently delivered, but who have passed the six weeks of the puerperal state, menorrhagia occurs not rarely, and sometimes very severely.

In elderly women it is common about the period of the change of life, and it may occur even after the change of life. I have seen some cases in which I could not doubt that sexual excitement was the cause of the loss of blood in women long past fifty-four, which you are told is the limit of childbearing. I dissected not long ago an old lady who had occasional metrorrhagia, and who believed herself to be still sexually young. The body of the uterus was large, like that of a young woman, while the cervix was atrophied; and the ovaries contained structures which were, so far as the naked eye could judge, like large menstrual corpora lutea.

The treatment of this affection is easily described and remembered, because

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it can all be put under satisfactory theoretical rules. It is not treatment by specifics or remedies which have an unaccountable influence.

Constitutional remedies I shall not mention; everybody understands them. According to the constitutional disease, according to the state of the blood, so do you prescribe your remedies; so, also, whether the disease be in the heart, lungs, or liver.

In all cases where the loss is great you enjoin rest, but only in such. You can easily understand that exercise, stimulating the circulation, will tend to increase the flow. The rest you prescribe must be horizontal; and the patient must not, in extreme cases, get up even for purposes of urination and defecation, for the blood-pressure is greatly and injuriously increased by stooping and pressing down in performing these functions.

Then we come to medicines. Of all with which I am familiar—and I have tried a great number—ergot stands first. In obstetrics you are generally told that ergot produces its effect in about fifteen minutes: that is doubtful even in parturition; but in the unimpregnated woman you must not expect it to act thoroughly till days of its use have elapsed, and in some cases I have observed its use has had no result until it has been continued for weeks without intermission. After ergot, in popular estimation, come gallic and tannic acids. I am not quite sure that they have any effect at all. They may have an effect, and be as rationally used as other medicines. I have used them extensively, and the impression they have left on my mind I have just told you. The medicine which seems to me next best after ergot of rye is sulphuric acid, often combined with some saline; and no injury is done if the saline produce slight relaxation of the bowels. You have not long to wait for sulphuric acid to produce its effect. You may have to give it in large doses, and frequently; for instance, you may give one drachm, or even twice as much, in a day, dividing it into frequent doses. The beneficial influence of digitalis and cannabis indica is almost certain, yet in point of reliability these remedies come considerably after ergot and sulphuric acid.

One of the most powerful influences, and one with which I have been long familiar, is the use of heat. Heat is supposed by most people, professional and non-professional, to favour bleeding; but its influence in causing the contraction of involuntary muscles has long been known, and its use in cases of menorrhagia and metrorrhagia, whether simple or not, is very valuable. It is to be applied internally in the form of irrigation, by the passing through the vagina of a large quantity—pints—of water at 100° to 110° Fahr. This is not to be done long at a time, being continued five to ten minutes, and repeated several times a day. It is almost universal to swear by cold as a hæmostatic in our diseases, and I need not say that I have seen it used, and used it myself many times. In the form of ice, applied to the external parts, it is, I think, quite as often injurious as not. It is best used by irrigating the vagina just as is done with hot water, or by placing small bits of ice in the vagina. Even used in this latter way, my impression is that its value is inferior to that of heat.

If all these means fail, you may have to resort to a plug. In the virgin this is very difficult to insert. The operation indeed may be quite impracticable. But if the woman be married, and still more if she has had a child, it is easily made available, and you will often be astonished at the good result of even what seems to be a very imperfect plug. You will sometimes find a small sponge capable of controlling quite a formidable menorrhagia.

I have told you that there are cases of simple menorrhagia even in young virgins that prove fatal; and you are not to suppose that we have nothing to do for them beyond what I have already mentioned. The last remedy is to paint the bleeding surface with "styptic." If the womb is dilated the bleeding sur-

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face may be easily reached. If the os uteri be not dilated, you can pass such an instrument as this hollow probe and inject the styptic through it, which will have the same effect as painting. The instrument you see is fitted to a small syringe.

Many of you will remember a fatal case of this injection with perchloride of iron, and therefore I hesitate to recommend that drug, although I think it is the most powerful styptic we have. I would advise you to use tincture of iodine; or, if you do use perchloride of iron, it should not be by injection. The bleeding surface may be swabbed with it, so that it may not pass into the veins, which was the disastrous accident in the case referred to. You may also try other drugs, such as a solution of alum.—*Med. Times and Gazette*, Aug. 7, 1880.

Hospital Notes.

Locomotor Ataxy in a Boy.

Harry G., paper boy, aged 13, was admitted to the Sussex County Hospital under the care of Dr. W. AINSLIE HOLLIS, on Nov. 21st, 1879. His mother was alive and healthy. His father had recently died of cardiac dropsy. The patient was the second of six children; five were living; four healthy; one girl died in infancy. There was no history of chorea, epilepsy, or mental disorder amongst his relations.

The patient, an intelligent lad, had had no illness sufficiently severe to keep him in bed, except measles and scarlet fever in childhood. He was stated to have suffered from frequent attacks of diarrhœa, passing blood in his motions. Until nine years of age, he was quite firm upon his legs. About this time, his mother first noticed a weakness in the legs and something "strange" in his appearance, as though he had had "something to drink." There was no personal history of fits, chorea, or of any mental disorder.

On admission, the boy was poorly nourished. He could not stand upright with his heels together and his eyes closed. There was always considerable swaying of the body (static ataxy) when standing unsupported. The head was held stiffly. In walking, the legs were widely separated, and the feet flapped the ground at each step. He frequently fell down, apparently from weakness of the legs, sometimes from giddiness, but he never lost consciousness. Cutaneous sensibility of the legs—tested by pricking, pinching, and the application of warm and cold sponges—was not observably impaired. There was no sensation of walking upon air-balls, etc. Patellar tendon-reflex was absent. (This reflex was only impaired about a fortnight before his admission.) There was some reflex action on tickling the soles of the feet. Muscular sensibility, as tested by the continuous current, was fairly good. The muscles responded to the action of the current, and he perceived their contraction. Muscular power was good. He complained of occasional lancinating pains along the course of the anterior crural nerves. He could not pick anything off the floor without kneeling. The upper limbs appeared to be healthy. He could write a good round hand. He readily touched the tip of his nose with either hand whilst his eyes were closed. The eyesight was normal in strength, as tested by Snellen's types. No amblyopia nor diplopia was observable. The pupils contracted naturally. There was no ataxic movement of the eyeballs upon attempting to follow a moving object with his eyes. At one period of his disease (January, 1880), he suffered for some days from a pain in the left side of his head, followed by a discharge from the left ear. He frequently suffered from giddiness. There was no deafness. He spoke slowly and somewhat indistinctly. His general health was fairly good. There was no loss of control over the sphincters.

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During his stay in the hospital, he was treated with iron and strychnia, cod-liver oil, and the continuous current; no perceptible improvement resulted.

REMARKS.—The above case presents several peculiarities worth consideration. First, as regards the age of the patient; among sixty-eight observations, Erb found only three to have commenced between eleven and twenty years of age. The statistics of Carré, Topinard, Cyon, and others, correspond closely with these. Friedreich has certainly noted a peculiar variety of this disorder, which is seemingly hereditary, and begins very early in life. Dr. Bradbury (*British Medical Journal*, 1871, vol. ii. page 499) narrates a case which, in many respects, resembles the foregoing. The patient, however, was eighteen years of age when he came under observation, with well-marked symptoms of ataxy. In this case, an hereditary tendency was probable; so far, it resembles the three cases mentioned by Friedreich, aged respectively fifteen, sixteen, and eighteen (Virchow's *Archiv für Pathol. Anat.*, vols. 26 and 27, 1863). In the *British Medical Journal* (June 4th, 1870), a case of locomotor ataxy, in a man aged twenty-four, is shortly recorded. The disease is stated to have commenced at the age of nine. Dr. Ryott (*Lancet*, August 12th, 1876) also sends notes of a case of this disorder in a patient aged nineteen. The above cases are all that I have been enabled to meet with. Many of them are, from the scantiness of the descriptions, valueless for the purpose of comparison. I think, however, they sufficiently show the rarity of the disease at the age of the boy G., especially if we exclude all hereditary taint.

As regards the origin of the disorder in this case, it will be difficult to ascribe it to any other cause than that of "taking cold." G.'s occupation as a newsboy doubtless gives this conjecture (for want of a better one) an aspect of probability.

Another peculiarity in the case is the rapidity with which the symptoms increased in severity during the last six months. Friedreich lays considerable stress upon the long duration of the disease in the young affected by the hereditary form, lasting as it did in some instances for upwards of thirty years. Kellogg (quoted by Erb) also gives some similar cases of long duration. On the other hand, the absence of severe lancinating pains in the affected limbs (although G. suffered from these pains occasionally, they were by no means a prominent symptom) coincides with Friedreich's observations. In Bradbury's case also the pains were slight.

The co-ordinatory disturbance of speech, the absence of any disturbance of sensibility, or only insignificant ones, are also mentioned by Friedreich as peculiarities in his cases—peculiarities well-marked in the present instance. The rapid development of the ataxic phenomena in the muscles of the eyeballs and the upper extremities, in the latter writer's and in Bradbury's cases, are singularly at variance with the course the disease has taken in the boy G. I think the above case strengthens the hypothesis lately advanced by Tschirjew, namely, that tendon-reflexes (producible in any muscle favourably situated) are due to relations existing between the muscles and the spinal cord. According to this authority, every muscle possesses not only centrifugal motor nerves, but also centripetal nerves, having their origin near the junction of the muscle to its tendon, and passing into the spinal cord through its posterior roots. This nervous arrangement serves the purpose of keeping a constant tension upon the tendons, which tension in its turn reacts as a stimulus to the muscles to preserve their tonicity. When we put into action any group of muscles, the tone of their antagonists commences at once to increase, owing to augmented tension of their tendons. If this muscular nervous system be deranged (as by disease of the spinal cord), the corrective action of the antagonistic muscles becomes lost, and the movements become jerky and uncertain. (*See London Medical Record*, 1880, page 82.)—*British Med. Journal*, July 31, 1880.

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MONTHLY ABSTRACT.

Anatomy and Physiology.

Multiplicity of the Spinal Glangia.

The ganglia upon the posterior roots of the spinal nerves are invariably described as single. A subject has been met with by Dr. Leo Davida, of Pesth, in which some of the lumbar ganglia were double instead of single. This observation led him to investigate the condition further, and he has found a similar condition in two other bodies. In some of these the ganglia were treble instead of single. In the first body, that of a man twenty-three years of age, the first, second, third, and fourth lumbar ganglia were double on the left side, but on the right only the third and fourth. In most the ganglia were quite separate, in some they were connected by a gray commissure. The largest was three millimetres in diameter. The posterior root, two millimetres above the ganglion, divided into two, one for each ganglion. There was a difference in the size of the roots corresponding to the size of the ganglia. In the second body, that of a man forty-five years old, on the left side the first four lumbar ganglia were double, and the fifth was treble. On the right side the first two were double and the last three treble; one of the sacral ganglia was also double. In some instances the three ganglia were quite separate, in others they were united by gray commissures. In the third body, that of a man thirty-two years of age, the third, fourth, and fifth lumbar ganglia were double on the left side, the second, third, fourth, and fifth on the right. As these were the only bodies examined, and the condition was found in all, the conclusion was drawn that duplicity of some of these ganglia is the normal condition. The point certainly deserves the attention of anatomists.—*Lancet*, Aug. 14, 1880.

The Formation of Callus.

The mode of formation of callus is a subject of both practical and pathological interest. In the year 1865, M. Ranvier showed that the callus which is formed in simple fractures, in men, and animals alike, passes through a cartilaginous stage, while in compound fractures there is no cartilaginous stage; new bone is at once formed from granulations which come from the medulla of the fractured bone. He showed also that suppurative inflammation does not interfere with the formation of bone in cartilaginous callus, when the latter has once been formed. These researches left still undecided the question of the cause of the difference in the process under the two conditions. This point has been further studied in an investigation described to the Académie des Sciences by two pupils of M. Ranvier, MM. Rigal and Vignal. They find that (1) even in simple fractures the central plug always becomes directly bony in the middle of the medulla, which has assumed an embryonal structure. (2) When a part of the bone is scraped away, either down to the medullary canal or less deeply, the cicatrix is always directly bony, even when union is by the first intention, a fact also observed by M. Ranvier. (3) In a compound fracture, even if the fragments of bone are left exposed to the air for a considerable time, if suppurative inflammation can be avoided, and union by the first intention thus obtained, the callus passes through a cartilaginous stage. (4) That in a compound and suppurating fracture the callus is

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at first cartilaginous, in the points not invaded by the suppuration, while even in simple fractures, in which the extremities of the bones are, from any cause, bathed in pus, the callus is still primarily bony. These different facts led the investigators to conclude that if in compound fractures the callus is primarily bony, it is because the periosteum, or more exactly the subperiosteal layer of cellular tissue, was destroyed by the suppuration; and they have arrived at the conclusion that this layer alone is concerned in the formation of cartilage, and that the medulla of both the Haversian canals and of the central canal forms bone directly. Several attempts were made to obtain bony tissue from medulla transplanted into the subcutaneous cellular tissue, but all failed, while subperiosteal tissue thus transplanted invariably produced bone which was at first cartilaginous, as M. Ollier had already found. From the lower third of the tibia of a rabbit the periosteum was removed three or four times, so as to destroy all its osteogenic properties. Then, fifteen days after the last removal, the bone was broken in the middle of the denuded portion. Twelve days later, a period at which, in the rabbit, a cartilaginous callus is usually found, the animal was killed, and the examination of the fracture showed that in the midst of granulations proceeding from enlarged Haversian canals, there was a peripheral callus, purely bony. The experiment was repeated several times with the same result. A still more conclusive experiment was the one in which the periosteum was removed from one surface only, and the bone then broken. Upon that surface the osseous callus formed directly, as in the case of compound fractures, while upon the surface on which the peritoneum was preserved the callus was cartilaginous. These experiments show that the subperiosteal layer, when there is active irritation, as in the case of fractures, contributes to reparation by forming cartilage. But there are numerous cases in which the subperiosteal tissue forms bone directly, and experimentally it could be made to form bone or cartilage as well; with slight irritation bone is formed, with greater irritation cartilage. In the same animal the periosteum was exposed on both legs; on one it was irritated gently by rubbing (as with an agate burnisher), and in the other leg it was irritated strongly, and the adjacent soft parts were bruised, so as to cause an extravasation. If union of the wounds by first intention was obtained, in the former osteophytes were found beneath the periosteum on the twelfth day, while in the latter there were only cartilaginous masses. The latter experiment explains the direct formation of bone at the points of the callus which are farthest from the fracture. In the experimental fractures it was invariably found that in the extremities of the oval mass of callus, bone was formed at once—the inflammation at these points being less active, the subperiosteal cellular layer formed bone immediately.—*Lancet*, Aug. 28, 1880.

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The Constitution and Relations of Bone Lamellæ, Lacunæ, and Canaliculi, and some effects of Trypsin Digestion on Bone.

This is the title of a study recently made by Mr. De B. Birch, Demonstrator of Physiology in the University of Edinburgh (*Journal of Physiology*, vol. ii., Nos. 5 and 6), of which the following are the conclusions:—

1. A lamella of bone consists of a number of bundles of fibrils arranged in the same plane and in the main parallel to each other, but communicating occasionally by lateral offshoots.

2. Neighbouring lamellæ have the direction of the fibrils set at different angles, and the fibres of alternate lamellæ correspond to each other in direction very closely.

3. There are no elastic fibres in the lamellæ of the Haversian systems.

4. There is a membrane around the lacunæ and canaliculi, isolable throughout

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its connections, and especially after treatment with chromic acid and digestion by trypsin.

5. The canaliculi are contiguous with a membrane lining the Haversian canal, this being homogeneous in structure, and of the same nature as the membrane of the lacunæ and canaliculi.

6. These membranes differ in nature from the cementing substance, as evidenced by the above-mentioned reactions, and are not mere condensations of that substance, as their outlines are sharply defined, and perfectly even when isolated by the process mentioned.

7. Periods of cessation in the deposition of Haversian systems of considerable duration probably occur, be the cessation throughout the length of the system or partial, and a membrane is formed at such periods around the temporary lumen similar to that which is afterwards formed round the permanent canal.

8. In consideration of the behaviour of tryptic digestion in producing the appearance described as occurring in the ox's rib, the older intermediate lamellæ are less resistant than the younger ones, and than the Haversian systems and masses of inner lamellæ, some change having taken place in the cement.

Materia Medica and Therapeutics.

Oil of Eucalyptus.

In the *Deutsche Medicinische Wochenschrift*, No. 30, Dr. SIEGEN, of Deutz, narrates some of the results he has obtained from the use of the oil of eucalyptus globulus in antiseptic surgery. He was induced to experiment with it at the suggestion of Professor Binz, and since 1872 has carried on his investigations of its antiseptic properties. He prepares the solution of the oil by dissolving three grammes in fifteen grammes of alcohol, and diluting with 150 grammes of water. In this solution he soaks ordinary gauze. This dressing is applied in the wet state, covered with the usual gutta-percha tissue, and the whole kept in position by means of gauze bandages. Thus prepared, the eucalyptus gauze does not appear to irritate or produce eczema upon even sensitive skin, and is perfectly antiseptic.

In one case of a child with caseous glands of the neck Dr. Siegen operated—first dipping the instrument in a 2 per cent. solution of the oil and washing the surfaces with the same—by scooping out the contents, draining, and applying a wet eucalyptus dressing, as above described. Although the spray was not used in this case, the discharges which had penetrated the gauze were quite sweet upon the third day. The slight amount of pus remained colourless, and on the eighth day the cavities had contracted and healed. In a second case, of a child with right genu valgum, he removed a wedge-shaped portion of the tibia, and, after fracture of the fibula and proper adjustment of the bone, dressed with eucalyptus gauze, using the thymol spray. The bone wound healed forthwith, and on the tenth day after the operation only a superficial strip of granulations remained.

In a child with purulent inflammation of the elbow-joint and fistulous openings, Dr. Siegen performed resection of the joint under the thymol spray, and, after washing out the wound with an 8 per cent. solution of chloride of zinc, dressed with thymol. The discharges from the wound remained, however, still offensive and profuse, whereupon he changed to eucalyptus dressings, having in the first place washed the surfaces with a 1 per cent. solution of permanganate of potash. After the first dressing the secretion of offensive pus ceased, and the wound rapidly healed.

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His fourth case reported was an abscess of the knee, which was similarly treated, and with equally favourable results.

Dr. Siegen's experience has taught him that a 5 per cent. solution of oil of eucalyptus may be employed without any drawbacks. Dressings prepared with this solution may be left undisturbed for four or five days, whilst the 2 per cent. solution dressings remain aseptic for three days.

Dr. Siegen's researches confirm those of Schulz, published in the *Centralblatt f. Chirurgie*, 1880, No. 4, on the use of oil of eucalyptus in antiseptic surgery.—*Lancet*, Sept. 4, 1880.

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Action of Sugar on Calomel.

From time to time notes have appeared in various journals, warning against the changes said to be produced in calomel by sugar and various other substances with which it is often prescribed; while many therapeutists advise that so long as calomel is being taken, no salted food or acid drink should be allowed. M. VERNE has submitted these views to the test of experiment; he made various mixtures of calomel with common salt (in solution), beet-root and colonial sugar, solution of citric acid, etc.; these he examined at the end of periods varying from 3–15 days. Although at the end of these intervals the mixtures he experimented with showed to the eye slight traces of change, chemically he could find no evidence of the presence of corrosive sublimate, or of any soluble salt of mercury. He refers such accidents as have been reported chiefly to impurities in the drug; as supplied to the chemist, calomel is usually, to some extent, impure, and should always be washed with distilled water and alcohol. The danger of giving acid drinks with calomel is purely theoretical; it was proved that the latter, when exposed for fifteen days to the action of a 20 per cent. solution of citric acid, underwent not the slightest alteration. M. Verne concludes that the subchloride of mercury is a much more stable salt than is generally supposed; it is, in fact, more stable than corrosive sublimate, as solutions of the latter, when exposed to light and the influence of various organic substances, deposit calomel. Non-coagulated albumen, however, at the temperature of the human body, reduced calomel rapidly and easily, transforming it into a slightly soluble albuminate. Neither common salt nor sea salt, at 40° C., had any action on calomel, either when used alone or in the presence of albumen.—*Glasgow Med. Journal*, May, 1880, from *Bull. Gén. de Thérap.*, March 30, 1880.

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On Some Important Therapeutic Effects of Chlorate of Potassium.

Dr. ALEXANDER HARKIN states (*Dublin Journal of Medical Science*, May, 1880), that this drug exercises a most potent influence on all maladies dependent on defective nutrition, secretion, excretion, aëration, and molecular metamorphosis—that it possesses the power of developing vital force in weakened constitutions, of retarding the degeneration of the tissues, and of frequently controlling the too rapid advance of senility due to climacteric conditions. He considers the *modus operandi* to be due to the fact of its two elements being oxygen and potassium, which are indispensable to the formation of healthy blood. When a solution of chlorate of potash is taken into the stomach, a portion—as is the rule with iodide and nitrate of potash—is carried off by the kidneys, another portion passes by diffusion into the liquor sanguinis, the textures, the blood globules, and white corpuscles, a third may be supposed to part with these equivalents of oxygen in the blood, leaving behind chloride of potassium, which may be detected in the urine as well as in the blood, of which it is an important element. The dose should be a saturated solution, which is one ounce to twenty ounces of water,

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the patient taking one ounce of this thrice daily. Its efficacy is increased in chlorotic or hemorrhagic conditions by the addition of tinct. ferri perchloridi. As to the tolerance of the drug, only one well-marked instance was noted where it produced strangury.

As a lotion, Dr. Harkin has found the chlorate of great value, and when using it externally he always gives it internally; in burns and scalds he has found it specially useful, as also in indolent ulcers, in sinuses in the breast in strumous abscesses, etc.

The above paper was read at a meeting of the Ulster Medical Society, and a discussion took place, at which Dr. Withers mentioned a case in which a large indolent sore had healed under chlorate of potash solution, grs. v to the ℥j of water, after everything else had failed. Dr. Browne had found it most efficacious in burns and scalds, and also in mammary sinuses, which were injected according to Dr. Harkin's directions.

Dr. Whitlaw had used the chlorate largely, and did not think that we could get on without it in children's diseases. In tonsillitis and pharyngitis he had found it of service, but he would caution those employing it to stop it after the urgent symptoms had disappeared, as he had found the congestion of the throat kept up by continuing the medicine.—*Glasgow Medical Journal*, Sept. 1880.

Medicine.

The Thermometer in Diagnosis.

Dr. J. B. BRADBURY, Physician to Addenbrooke's Hospital, Cambridge, in his recent Address in Medicine before the British Medical Association (*British Med. Journal*, Aug. 14, 1880), made the following interesting remarks on the diagnostic value of general thermometry:—

General thermometry has been found useful in diagnosing cerebral hemorrhage from alcoholic poisoning, the general bodily temperature (rectal) falling at first below the normal in cerebral apoplexy,[1] but not in drunkenness. Such a case is recorded by Mr. Foster in the *Lancet* for December 27, 1879.

General thermometry also assists us in the differential diagnosis of true apoplexy from the so-called apoplectiform seizures, which occur in progressive general paralysis, disseminated sclerosis, cerebral softening, and also from uræmic coma. Charcot says, "I have demonstrated by repeated observations that, in true apoplexy, especially when it depends upon cerebral hemorrhage, the temperature constantly diminishes some moments after the attack, and afterwards remains, generally for at least twenty-four hours, below the normal standard, even when intense and reiterated convulsive fits occur;" whereas, in the congestive attacks (so-called apoplectiform seizures) which occur in progressive general paralysis and in disseminated sclerosis, "the temperature, on the contrary, rises above the physiological standard, and tends to become gradually more and more elevated, during the whole continuance of the attack."

In cases of cerebral softening, according to Bourneville, the "period of initial lowering" of temperature commonly met with in cerebral hemorrhage, is either absent or much less slightly marked; and, after the first two hours in a case of softening, the temperature may suddenly rise to 102° or even 104°, though it

[1] Charcot on Diseases of the Nervous System, New Sydenham Society, 1877, p. 209; also references there given, especially Bourneville, Etudes Cliniques et Thermométriques sur les Maladies du Système Nerveux. Paris, 1872.

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soon descends again to the normal standard, and afterwards exhibits altogether irregular oscillations (unless the pons Varolii be the part affected); whereas, in cerebral hemorrhage, it is found that, if the temperature, after the "initial lowering" rises soon after the attack beyond 102.5°, it rarely sinks again to the normal standard, unless under the influence of a shock resulting from fresh hemorrhage (Bastian[1]). "In uræmic coma, according to Bourneville, the temperature of the body begins to fall at the onset of the seizure, and continues to sink as long as the coma persists, so that it may fall as low as 90° Fahr. in fatal cases. On the other hand, in coma due to cerebral hemorrhage or softening, the lowering of the temperature is slighter in amount, and, in cases not fatal within this period, rarely lasts longer than twelve to twenty-four hours" (Bastian).[2]

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The Nature of the Diphtheritic Membrane.

There have been few subjects in pathology more debated than diphtheria, and the special lesion which characterizes it—from which indeed it takes its name; and few about which so much needless confusion and mystery have clung. We may now fairly assume that the vexed question of identity between this disease and that styled "membranous croup" has been set at rest, and it is not intended here to raise it again. At any rate, it has been shown conclusively on all sides that there is no anatomical difference in the two diseases, but only a topographical difference as to the seat of the exudation; and similarly, one by one, all etiological, clinical, and other distinctions have faded before the exhaustive analysis of modern inquiry. Still, however, pathologists have differed much upon the subject of the nature of the false membrane in diphtheria, and it is only one instance out of many in pathological histology which show how various may be the interpretations put upon microscopical appearances. The reason for divergence of opinion is not a simple one. It depends, in one instance, upon the different stages at which the exuded product has been observed; in another, upon the different seat at which it has been formed; and sufficient account has not been taken of such essential points as these, whilst too much stress has been laid upon other and more accidental features. The sad confusion which resulted from the introduction of the terms "croupous" and "diphtheritic," as general pathological phrases, indicative of various forms of inflammation of mucous membrane, with which the German school is to be credited, has done much to complicate the plain facts of the case; and the non-recognition of the fact that the effects of local irritation of a simple kind lead to changes on mucous membranes identical with those produced by the specific irritation of the diphtheritic poison is yet another element which still obscures the subject. A remarkably lucid exposition based upon carefully conducted study of this phrase of the question by M. Leloir, in the current number of *Archives de Physiologie*, seems to us to be worthy of attention. Although this observer arrives at conclusions differing in some points from those of others, yet he has succeeded well in harmonizing many discordant views, and has placed the matter in so clear a light that we think it well to briefly follow him in the course of his reasoning.

M. Lelior commences by a brief historical summary of the views held upon the nature of the diphtheritic false membrane, and he shows how, from having held the opinion that this is purely a fibrinous exudation, pathologists have come round to view it as one of purely epithelial transformation, the first to enunciate this view being Wagner in 1866. The truth indeed lies between the two schools, and the way at which this has been arrived has been by experiment. Many ob-

[1] Paralysis from Brain Disease, 1875. [2] Ibid.

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servers have hitherto tried to establish the identity between the membranous exudations following the application of irritants to mucous membranes and the specific membranous formations, but have been subjected to much hostile criticism and have failed to carry conviction. Leloir has followed the same course, producing the exudations on the fauces and pharynx in dogs, rabbits, and guinea-pigs, chiefly by means of ammonia, and observing the changes produced both by the naked eye and by microscopical examination at intervals varying from fifteen minutes to two or more days after the exposure to the caustic. He has thus been able to trace all stages of evolution of the false membrane. At first the change is simply denoted by redness of the affected patch, which sets in almost immediately after the application. But already the superficial cells of the stratified epithelium exhibit notable changes. A clear space appears around their nuclei; the cells are enlarged, but remain connected, whilst in the deeper strata there is evidence of their proliferation, and the vessels of the submucosa are gorged with leucocytes. About an hour after the application the patch has assumed a semi-transparent opalescent appearance; the perinuclear clear spaces have enlarged, the cell-protoplasm has become fibrillated and of a glistening character, whilst the nuclei remain in part unchanged, in other parts increased in number but not in character. Thus in this stage the upper layers of what is now a distinct false membrane present a reticulate appearance, wholly due to changes in the epithelial cells themselves; but in a very short time—five to eight hours—this primary reticulum begins to disintegrate, leucocytes and a fibrinous exudation penetrate the meshwork, until there is formed a thick white opaque membrane, that with which we are most familiar in diphtheria. In this third stage of its evolution the membrane can be resolved into two distinct parts—a *superficial*, composed of fibrinous filaments entangling pus-cells, degenerate epithelial cells, and fragments of the primary reticulum, which still persists in a modified form in the *deeper* layer. In the fourth stage the membrane has assumed a yellowish-gray colour, the epithelial reticulum is almost entirely broken up, and replaced by the exuded inflammatory material; and the final stage is that of disintegration of the false membrane, which assumes a pulpy consistency and yellowish colour. If the inflammation has been very intense, the vessels in the submucous tissue are compressed, and necrotic processes of a more or less deep extent take place.

Now, on comparing these changes with those which take place in pharyngeal diphtheria, a perfect similarity is observed between them. As may be imagined, M. Leloir has had no opportunity of studying the earliest stage of the membrane in this disease, but he was enabled in two cases to meet with areas of exudation in the second or "opalescent" stage, and he found there the reticulum formed from altered cells, the nuclear proliferation, and the commencing invasion of the reticulum by fibrin and leucocytes, just as in his experimental cases; groups of micrococci being found in addition. And so, indeed, with the latter and better known stages of the diphtheritic membranous formation; a close identity was found between it and that produced artificially upon the pharynx, fauces, epiglottis, and vocal cords. In the non-stratified epithelium of the larynx and lower air-passages there is no scope for the formation of the epithelial reticulum, and the false membrane is then almost entirely composed of leucocytes and fibrin, a distinction which sufficiently accounts for the well-known difference in the degree of adhesion to the subjacent mucous membrane in this site as compared with the pharynx. The fact that in diphtheria the membrane will re-form after being detached, whereas it does not in the case of simple irritation, is explained by the persistence of the cause of irritation—the specific poison—in the former case, and its absence in the other; and probably also from the blood-plasma being altered in diphtheria, and able more readily to traverse the coats of the vessels. Thus

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a diphtheritic false membrane is composed not of material simply exuded from the blood alone, nor of alterations in epithelium alone, but both the blood and the epithelial tissues have an important share in its production, the epithelial elements taking a far larger share in the regions where they are normally stratified than where they exist only as a simple layer; and in the former regions it can be shown how (except in a few rare instances, where the inflammatory exudations seem to pass through the epithelial strata almost *ab initio*) the false membrane is primarily of purely epithelial origin, how it becomes more and more mingled with products of exudation, which finally almost wholly compose it. The suggestion, too, is thrown out that cases of death from asphyxia in children, which may occur in the very early stages of the disease, do so by the glottis becoming occluded by the mere preliminary epithelial swelling in addition to the submucous hyperæmia, before the process has reached the stage of actual membrane formation.

Whilst, moreover, no anatomical basis of distinction exists between diphtheria and croup, neither can any difference be established between the pseudo-membranous products following experimental irritation and those due to the poison of diphtheria. Nay, more than this. M. Leloir declares that the same anatomical identity underlies all membranous inflammations of the mucous membrane, whether this be in "herpetic angina," in "pellicular" tonsillitis, mucous patches, chancres, etc. And, if this be true, we have here only another illustration of like effects following a multiplicity of causes. It is surely far better to interpret facts in this light than to seek in the mere effects of disease for the differences which lie deeper in the organism—viz., the nature and mode of evolution of the so-called "irritant" (in its widest sense) that is at the root of the manifestations. The concluding paragraphs of this paper are taken up with a comparison between these processes and those of pustular eruptions on the skin, but space forbids our entering on the interesting and suggestive inquiries there opened.—*Lancet*, Sept. 4, 1880.

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Treatment of Infantile Syphilis.

M. J. Simon, in a course of lectures upon the therapeutics of infancy, delivered at the Hospital for Sick Children in Paris, states that mercury is of real use in infantile syphilis. He advises that the following course of treatment should be rigorously carried on. The child must be rubbed morning and evening with Neapolitan ointment, the friction being made alternately in the axilla, groin, and popliteal space. Four times a day five drops of the Van Swieten's liquor should be administed in a little milk, the dose being increased, if necessary, to thirty or forty drops per diem. A wooden spoon or a porcelain cup should be employed to contain the liquor, since silver soon becomes covered with an amalgam which causes an alteration in the mercurial preparation. This treatment should be continued for some months, the quantity of mercury given being progressively raised and lowered.—*Practitioner*, Aug. 1880, from *Le Progrès Médical*, July 3, 1880.

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Hemorrhagic Syphilis.

Dr. J. Edmund Güntz records (*Schmidt's Jahrbücher*) the following interesting case:—

N. N., a female child of a woman who had twice miscarried in the sixth month, and aborted once in the third month. Externally the child seemed healthy and remained so until the fourth day when it became uneasy, and small blisters appeared on its feet. The child did not move its arms at all, and when put into the bath they hung quietly in the water.

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When Dr. Deahna, who reports this case in *Wurtemb. Corr.-Bt.* XLIX. 40, 1879, saw the child on the sixth day, the navel-string had fallen off, and the hands and feet were slightly œdematous. On both soles of the feet the corium was exposed, and also on the great toe. On the fingers, on the face near the nose and near the ears, there were blisters with clear water contents; both arms were paralyzed; the feet could be moved; the breathing was free, and the internal organs appeared to be normal. Mercurial baths were prescribed. On the seventh day the blisters near the ear (pemphigus) had coalesced but new blisters appeared on other portions of the body. The first crop of blisters took the form of ulcers. On the eighth day almost all of the blisters had opened, leaving the corium exposed. On the ninth day the doctor observed that blackish crusts formed on the child's lips, and that when they were washed off the tissue beneath was found to be normal; notwithstanding, there was a constant oozing of blood from the surface of the lips and from the mouth. Blood also came from several places where the epidermis was wanting. There were no more blisters formed. On the tenth day large and numerous ecchymoses were observed on the lower portion of the thigh, and two smaller ones on the left conjunctiva; the right knee was swollen, and the child could not sleep, but continually cried out. On the eleventh day there was bleeding from the navel and arms. The bleeding from all the places mentioned continued on the twelfth day, and in addition from the mouth. The child died on the next day.

The author believes that this was beyond doubt a case of hemorrhagic syphilis, as the existence of the syphilitic diathesis in the child was established, and the fact that the parents had had syphilis was beyond dispute. He holds that the claim of Behrend, that the hemorrhagic form of hereditary syphilis follows usually syphilis of a recent date, is not in accord with this case, as the syphilis of the father dated back to 1870 and 1871.—*Physician and Surgeon*, Sept. 1880.

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Paralysis in Acute Diseases.

In an important monograph on this class of diseases by M. LANDOUZY,[1] recently published, the author commences by stating his reasons for restricting his subject to the study of akinesiæ or motor paralyses, and amongst them, to *superadded* paralysis (*paralysies surajoutés*), that is to say, those which do not essentially form one with the primitive malady, or which only supervene along its evolution as an epiphenomenon or complication (*Lyon Médical*, July 4, 1880). By so doing, he believes himself to be conforming to tradition, for in the language of the schools, the paralyses in these acute diseases comprise only "those of the paralyses which, supervening, either during the course of or more frequently at the decline of convalescence, sometimes even after the cure of acute diseases, evidently arise from them, are dependent on them, but are only an accessory, purely contingent and even somewhat rare accident." Thus considered, these akinesiæ may be divided into three classes: 1. The paralyses arising from acute diseases; 2. The paralyses which follow acute diseases; 3. The paralyses evoked by acute diseases. These paralyses have been pointed out under a great number of different conditions. The writers of the eighteenth century have noted them in variola; J. Frank, after dysentery; Delius of Erlangen, in scarlatina; Baillarger, after erysipelas, etc.; but it is especially diphtheria which has furnished the greatest number. To this disease are referable the antiquated facts of Bellini (1680), of the elder Chomel, of Ghesi, Samuel Bard, etc.; to it also are owing the recent researches of Orillard, Trousseau, Lasègue, Maingault,

[1] Des Paralyses dans les Maladies aigues. Par Dr. L. Landouzy. Paris: Baillière et Cie.

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Gubler, etc. All these paralyses, however, do not behave in a similar manner; according to the disease in which they originate, they show themselves under different conditions of form, duration and evolution. On this point, that opinion of Gubler's cannot be accepted, which, according to his happy expression, believes in the equality of acute diseases in presence of the paralyses. On the contrary, each one of them requires a separate description, and this chapter of clinical analysis forms the first part of M. Landouzy's book. In the first rank we find the diphtheritic paralyses, of which the frequency is great: 26 out of 210 cases, according to Rayer, and 10 per cent. according to Sanné; therefore they have more specially attracted attention. Sometimes generalized and sometimes local, they may attack many regions; as a rule, it is the muscles of the velum palati and of the lower limbs which are attacked by inertia (81 times out of 117), but the motor troubles sometimes localize themselves on the bladder and rectum, the motor muscles of the eyeball (Perati), the agents of accommodation (Trousseau), or even, though more rarely, on the diaphragm and the muscles of the face (Rosenthal). The longer the time from the commencement of the diphtheritic attack that elapses before the appearance of these paralyses, the more they have a tendency to generalize themselves rapidly. There is no relation between their gravity and the apparent degree of the primary intoxication, any more than with the presence of albumen in the urine, a fact to which a certain importance had been attached up to the present time.

M. Landouzy very rightly lays stress on the diaphragmatic paralyses of diphtheritic origin; they are greatly to be dreaded when, in children, after a pultaceous angina, fits of cough and dyspnœa supervene suddenly. Cardiac paralyses, with the paralyses of the œsophagus, are also to be feared, since they represent the most frequent *modus operandi* of death in diphtheritic paralysis. This is an important point, and one well calculated to disturb the calm of those who are inclined to believe in the almost total immunity from diphtheritic paralysis. The bulbar localizations of diphtheria are less rare than is supposed, and such attacks are often the most sudden. M. Landouzy relates, under this head, two cases which came under his own personal observation, of death by syncope, precisely at the moment when danger appeared to be least imminent.

After diphtheritic paralysis, those most frequently met with are unquestionably typhoid paralyses. Like the preceding, they show themselves under the most varied aspects, paraplegia, hemiplegia (Nothnagel), sensorial paralyses, vesical paralyses (Béhier and Hardy), bulbar paralysis (Bailly, Marotte, and Liouville), according as they may be slowly or suddenly generalized, or finally localized. The cases of paralysis of the posterior crico-arytenoid nerves collected by M. Villemin and others, after even slight attacks of relapsing typhus, may be relegated to this category.

Typhoid fever may also give rise to certain motor troubles of a peculiar aspect, such as certain tremblings pointed out by some writers, of which some may put on the appearance of a true sclerosis in patches. The case reported by A. Chauffard affords an interesting example of this class. In this category of facts may also be placed aphasia following enteric fever, a complication which is now thoroughly recognized, and of which Trousseau and J. F. Weisse have cited the first cases. Thus, adds M. Landouzy, paralysis in typhoid fever seems to influence either the centres or the nerve conductor, or the muscle itself.

After the typhoid paralysis comes the turn of paralyses in petechial fever and acute dysentery, with the examination of the doctrine of reflex paralyses in cholera and intermittent fever.

The study of paralysis in connection with variola is of serious interest. The examinations after death, which have been made during later years, contribute to

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a great extent to clear up the pathogenesis of these various disturbances. They are not so frequent as was originally supposed, since, out of a total of 2000 patients, M. Huchard has scarcely found ten cases of paraplegia; but the cases are complete, thoroughly observed, and accompanied by incontestible anatomical verifications. Amongst the latter, the most interesting points are those of atrophy localized in consequence of parenchymatous neuritis pointed out by Joffroy, and the cases of progressive paralysis, with diffused myelitis, which may be credited to Westphal.

As to the paralysis in connection with pneumonia already thoroughly studied by Graves, Macario, Rosenthal, Charcot, and Vulpian, and finally and especially by Lépine, their principal interest consists chiefly in the history of the theories to which they have given rise. Considered by Gubler as of anæmic origin, to Lépine they are only the result of atheroma of the cerebral vessels. The hemiplegia of pneumonia, in fact, is almost exclusively met with in old people. As to the pleuritic hemiplegia on which theses have been written by Valicourt, Bertindu, Chateau, Aubuin, etc., the principal characteristic is the absence of intellectual disturbance, impediments of the speech, and the presence of a certain degree of variation. It is especially after purulent pleurisies and washings out of the pleura that the opportunity of observing them has been met with.

In order to form an exact notion of the direct conditions of the mechanism and of the nature of paralysis in acute disorders, in fact, to comprehend in what relations of subordination they stand in connection with each other, two principal questions ought previously to be answered. 1. Is the element of pyrexia capable of hindering the action of the neuro-muscular system? 2. What are the exact data furnished on this question by *post-mortem* examinations?

To the first question, M. Landouzy answers unhesitatingly in the affirmative. Pyrexia may act on the neuro-muscular system in two ways, either by bringing on hyperthermic lesions in it, or by impregnating the nerve-axis with morbific agents, like the toxic myelites, of which the existence is now thoroughly acknowledged. Hyperthermia acts on the muscle from the absence of oxygenation, which brings on the local death of the contractile elements (thick disks), or, indeed, by production of colloid degeneration, or the mouldy condition (*etat moisi*). It affects the nerve-conductor (a much more uncommon fact), and may then bring on a true parenchymatous neuritis, a process of which Joffroy's cases are full of remarkable examples; finally, it affects the nerve-centres, as Buhl's observations and Renaut's most recent researches on the hortensia tint seem to prove. The colouring matter of the blood, escaped from the globular element dissolved by heat, filters with the sanguineous serum which serves it as a vehicle across the connective meshes of the gray cerebro-spinal masses; the nerve-element no longer finds in this pathological medium the essential elements of its regular nutrition, and its existence is thus compromised.

As to the impregnation of the nerve-axis by the morbific agents, does it not obviously appear, in presence of the almost constant spinal fashion of the majority of these paralyses, of the intense rachialgia of variola, of the cervico-dorsal pains of typhoid fever; finally of the meningeal inflammation, of which several necropsies have revealed the existence? In fact, the *post-mortem* examinations now performed with a delicacy which the observers who lived at the beginning of the century had no prescience, have proved the existence of these material lesions in the most distinct way; whether variola, typhoid fever, or diphtheria be taken, it is seldom that anatomical disorders, corresponding exactly with the extent and degree of the paralytic disturbances observed during life (diffused myelitis in smallpox, according to Westphal) meningitic patches, degeneration of the ante-

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rior roots in diphtheria as discovered by Oertel, Pierret, and Déjérine, are not to be met with.

At the present time, therefore, we find ourselves far in advance of the theoretical ideas which had led the first observers to describe these paralyses under the name of asthenic paralysis of convalescence, of diffuse essential reflex paralyses, etc. Can the peripheric origin itself yet be retained, in presence of this quasi-general consensus of the description of central lesions, especially since the important researches of M. Ranvier, who has demonstrated that the first result of a ganglionic central lesion was to provoke an immediate alteration in the peripheric extremity of the corresponding nerve-conductor (of Doyère's patch)? However, whilst seeming thus to have as a common link the same point of departure, all these paralyses do not reveal an univocal process. They also differ in their local determinations. These differences have their *raison d'être* in individual predisposition, but especially in the nature of the injuring cause. It is easy, in fact, to comprehend that variola and diphtheria do not proceed in the same way in their work of destruction; the first acting specially by the hyperthermic method, like dothinenteritis, the second seeming to strike the nerve element especially by means of toxic impregnation.

M. Landouzy gives some interesting particulars of the theory of ascending neuritis (the neuritis migrans of the Germans), a theory especially supported by Friedreich and Leyden, who consider the spinal lesions as consecutive on the propagated inflammation of the palatine nerves. This theory, which the facts of paralyses of the velum palati supervening in the course of a cutaneous diphtheria seem already to have made doubtful, does not seem to have been sufficiently demonstrated, notwithstanding the experiments of Tiesler and Finberg.—*London Med. Record*, Aug. 15, 1880.

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Hysterical Anæsthesia.

At the late meeting of the British Medical Association, Dr. Bristowe made the following remarks in introducing a discussion on hysterical anæsthesia:—

It resembled, he said, other forms of hysteria in its actual characters. There was, for example, anæsthesia as regards touch, temperature, pain, and the condition of the muscles. These conditions were often associated; but cases now and then occurred in which analgesia was more marked than the other phenomena. In a still larger number of cases, the conditions were more or less modified. In regard to the sense of heat and cold and touch, anæsthesia depended a good deal upon the extent of surface touched. He had observed in some cases, where there was total anæsthesia to ordinary touch and to pain, as shown by pricking the skin, that the patient had felt when he had grasped the limb. In many cases, anæsthesia on one side was connected with hyperæsthesia on the other side, or in some other region; and even in the surface which was anæsthetic, certain portions sometimes remained hyperæsthetic. The muscular condition was often altered. There was some loss of power, some rigidity, some loss of the muscular sense, in virtue of which the patient was unable to use the hand or determine the position which it occupied. With regard to inco-ordination of movement, he had failed to recognize it. In a large number of cases, anæsthesia was hemiplegic, and in some few cases it was general; it perhaps affected the whole body, or one part at one time and another at another; and sometimes it was transferred from one side to the other. In one of his cases, three-fourths of the body were anæsthetic, the other portion being hyperæsthetic. In other cases, the anæsthesia was irregularly distributed. In many cases, the organ of special sense suffered in a remarkable way: hearing was impaired; the taste was modified; the sense of smell disap-

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peared in a greater or less degree; and the sight became affected. In ordinary hysterical anæsthesia, the taste was not always impaired; sometimes it was totally annulled on the affected side, and some patients had no taste at all. The sense of smell was often absolutely abolished on the affected side. The patient was generally incapable of distinguishing colours. Red was most frequently recognized, or its recognition was the last to disappear; and sometimes everything was described as looking white.

The first case to which he would call attention was that of a widow aged 31, who came under his care in hospital in July, 1879. She had been shipwrecked on one or two occasions, and on the last occasion (three years ago) had lost her husband. She had suffered from hysterical fits, and had anæsthesia. On coming into the hospital, the fits had almost entirely disappeared; but there were anæsthesia on the left side of the body, pain in the region of the ovaries, loss of taste and smell on the left side; and sight and hearing were totally unimpaired.

Another case was that of a girl aged 21, admitted in July last. She was first attacked with stiffness and pain in the neck, and sore-throat, in June. The muscles on both sides were affected; the thyroid body was enlarged and tender on both sides; there was tenderness of the left ovary, and total anæsthesia of the left side. She did not recognize heat and cold distinctly; she had a total abolition of the sense of pain, and almost of the sense of touch; she had lost taste on the left side, and smell in the left nostril; there was impairment of hearing in the left ear; the recognition of colours with the left eye was impaired; she called red, red, blue green, green blue, and yellow white. Those peculiarities were constant, and the patient was still in the hospital.

The third case (admitted in July, and still in the hospital) was that of a girl aged 18. The affection came on two years ago with fainting fits and pain in the spine and in the left hip and knee, and failure of sight for three months. She had anæsthesia to the middle line. There was tenderness of the left ovary. She could not distinguish between heat and cold; there was loss of taste and smell, and partial loss of hearing; recognition of colours, except red, bright green, and blue, was impaired. She had partial hemianæsthesia and an impaired muscular sense.

The next case was one of hysterico-epilepsy that had been under his care more than twelve months. The patient, a girl aged 18, had epileptic attacks, followed by anæsthesia on the left side of the body, subsequently passing over to the right side, and involving the whole of the body. She was paraplegic, and had hysterical asthenia. She was now probably in one of the London workhouses or infirmaries.

Another case was one recently published by Dr. Stone; that of a girl fifteen years of age, who had come into hospital attacked with hystero-epilepsy at the time of her first menstruation. It had been brought on remotely by an accident in which she had struck her head, but more immediately by reading some horrible story. Her attacks could be stopped by pressure upon both ovaries. She had hyperæsthesia of the lower extremities, and anæsthesia of the body above the navel. In the course of time, the anæsthesia extended so as to involve all parts of the body except the right lower extremity, which was hyperæsthetic. Not long ago, she had been sent from the hospital perfectly cured.

Another case, also under the care of Dr. Stone, was that of a girl who had complained of pain, supposed to be rheumatic, in the muscles of the arm and leg and other parts of the body for two or three months. She had attacks of laughing and crying. On admission, it was found that she had lost the sight of the left eye; everything looked like a fog; she did not recognize colours or forms. After a short time, sensation returned, and she recognized everything; but, either immediately after or a little before she recovered her sight, she became temporarily

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anæsthetic on one side, lasting for a few hours—tending to show that the case was one of hysterico-anæsthesia; and that the impairment of sight, which, taken apart, might have been misunderstood, was also an anæsthetic phenomenon.

He would next draw attention to the distinction between hysterico-anæsthesia and the other forms. With regard to hemiplegic anæsthesia, he confessed that he did not recognize any clear distinction between that and hysterical anæsthesia. It was attended with loss of sensibility to pain, impairment of the recognition of heat and cold, and all the various phenomena characterizing hysterical anæsthesia. The patient not unfrequently lost the sense of taste on the same side as the anæsthesia, and not unfrequently lost the sight of the eye on the corresponding side. Within two or three years, he had three well-marked examples of that. In one case, a man aged between thirty and forty was attacked with an apoplectic fit; and, when he came to himself, he was found to be not only completely paralyzed on the left side, but completely anæsthetic on that side. There was deviation of the eyes, head, and neck, towards the affected side of the brain; and he was absolutely blind in the left eye for two or three days. The ophthalmoscope revealed nothing wrong in the posterior part of the eye. The patient recovered.

In the cases he had mentioned, the sense of smell was impaired on the left side. It was difficult, however, to determine such points in cases of apoplexy, because the patient was often affected in his mind, and not able to explain his condition. Three cases showed blindness. In one, it was temporary, involving both eyes; but the patient recovered. A case of cross paralysis had recently come under the care of Dr. Barlow. It was that of a man thirty-nine years of age, who was attacked with giddiness, vomiting, drawing of the mouth to the right side, and inability to swallow. On admission, he was found to have paralysis of the left portio dura nerve, partial paralysis of the external rectus of the eye, complete anæsthesia of the upper part of the body down to the waist. The smell was imperfect; hearing on the left side was weak. The eyesight was not carefully investigated. The patient recovered in two or three days. The point of interest was, that anæsthesia affected one side of the body, without any loss of power. The patient could use his hand perfectly. He presumed the case was due to some effusion of blood, or to some affection of the medulla oblongata.

Anæsthesia was very likely to occur after diphtheria, and he had recently had several such cases. One was that of a clergyman aged 33 or 34, who came into the hospital after an attack of diphtheria which occurred two months previously. He presented most of the characteristic conditions of diphtheritic paralysis. There were defective accommodation, owing to paralysis of the muscles of the eye; difficulty of speaking and swallowing, owing to paralysis of the abductors of the larynx; loss of power in both hands, both forearms, both lower extremities; also anæsthesia, which was considerably distributed, in the hands, the forearms, the legs, the tips of the nose, the lips, the tip of the tongue, the chin, the penis, scrotum, and rectum; the evacuations passing without his knowledge.

The distinctions between hysterical anæsthesia and the other forms were not so much in the anæsthesia itself as in the collateral circumstances associated with it. There were but few cases of hemiplegia with organic disease and anæsthesia which one would confound with hysteria; but they occasionally occurred. And there were very few cases of paraplegia of organic origin which would be confounded with hysterical anæsthesia; but he could produce examples; and so with regard to other forms.

The members present were acquainted with the investigations of M. Charcot as to the application of various metals, magnets, and other agencies, producing a restoration of sensation on the affected side, and a transference of the anæsthesia to the other. In most of the cases he had narrated, experiments had been made

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as to the effect of the application of metals, but not with sufficient care. In the case of the woman whose husband was drowned, gold was applied to the cheek on the anæsthetic side, and in half an hour sensibility was restored, and the opposite side became anæsthetic. He had tried the effect subsequently with other metals, but without success. In the second case, that of the girl aged 21, it was found that copper, zinc, and the magnet had a slight effect upon the skin, producing, after twelve or twenty-four hours, a temporary return of sensation, but no transference of the anæsthesia on the other side. In the next case, copper, iron, and the magnet had slightly the same effect. In case No. 2, no applications over the eye had any effect in restoring sight. Case No. 4 showed no particular effects. In Dr. Stone's case, the application of gold caused a transference of the hyperæsthesia to the anæsthetic side, and the magnet caused a return of sensation to one leg.

Dr. MATTHEWS DUNCAN (London) said that, in the inquiries under discussion, he recognized progress in the way of observation; much had been done in arranging the diseases and finding connected groups of symptoms and phenomena. But besides this, which was a great matter itself, he knew of no decided advance in this limited department of pathology. He thought there was a greatly prevalent omission of the study of the artificial forms of these diseases. In the days of mesmerism and electro-biology people saw, in any evening party, these diseases produced experimentally, or for amusement—anæsthesia, contracture, catalepsy—splendid examples, quite as perfect as the clinical cases now related. Indeed, one could not listen to or read such cases without seeing plain and admitted evidence of their being not altogether spontaneous, but to a great extent artificial. In saying they were artificial, he implied that the artifice was partly by the patient and partly by the practitioner, and he would carefully guard against being supposed to imply anything like collusion or bad faith. Of the good faith of all concerned, he had no doubt. But his remarks would be directed chiefly to the great part played by the ovary in these affections; for with the state of this subject he was intensely dissatisfied; he noticed a want of scientific precision or positive error in the best writings. He would refer to Charcot, for whose great works he had the highest respect. He (Dr. Duncan) had lately seen three characteristic examples of these hysterical diseases, one, a case of left hemianæsthesia with contracture, one of hystero-epilepsy, and another of the same with cataleptic attacks; and in none of these did he find any of the so-called ovarian symptoms or pressure-phenomena.

Charcot gave directions for finding in the abdomen the seat of this ovary; and, speaking of palpation in the region of the ilio-pectineal line, he said that towards the middle of this rigid crest the hand would usually meet with an ovoid body, elongated transversely, which when pressed against the bony wall slipped under the finger. This was an error. The ovary was not to be felt in this way. But this was not all, for such so-called feeling was reduced to an absurdity when it was described as being done, or the ovary was described as being pressed to stop an epileptic fit, when there was tetanic rigidity, the belly being prominent, greatly distended, and very resisting. There was only one way of feeling the ovary; namely, by bimanual examination, the finger in the vagina or rectum touching or pressing on it. He had been feeling ovaries in this real and undoubted way for thirty years and more, and he had never seen any of the wonderful phenomena produced, which were said to be the result of the imaginary pressure which Charcot described. By this imaginary internal pressure it was said that, in certain cases, there were produced intense sibilant sounds in the left ear, which the patients compared to the strident noise produced by the whistle of a railway engine, a sensation as of blows from a hammer falling on the left temporal region, and a

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marked obnubilation of sight in the left eye. This marvellous set of productions he had no hesitation in characterizing as artificial, or, rather, purely imaginary, as, indeed, a mass of bad observation. The same author taught his students that very commonly the use of the catheter in hysterical cases might need to be continued for months, nay years; and this was teaching a great and grave error. There was no such need. Were any confirmation required of the tenor of his remarks, he (Dr. Duncan) might find it in the suggestion in the same lectures that a hysterical woman might live long without passing urine, or only two or three grains of urea daily, and that she might get fat, or at least keep up her alimentation, by a quite inadequate supply of food.—*British Med. Journal*, Aug. 28, 1880.

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Case of Cystosarcoma of the Brain.

At the meeting of the German Surgical Congress in April, Dr. SONNENBURG, of Strasburg, showed a cystosarcoma of the brain, removed from a girl aged 13, who had been a patient of Dr. Lücke. She was said to have had inflammation of the brain in her first year, since which she had had a gradually growing tumour on the left anterior half of the skull. If this tumour were pressed, giddiness set in; she had had epileptic attacks for three or four years. There was no defect of intelligence. Pulsation was distinct. An accurate diagnosis could not be made during life. By puncture a clear indifferent liquid was evacuated; and the canula came into contact everywhere with smooth walls. The treatment consisted in drainage by a silver wire and counter-opening. The profuse secretion prevented antiseptic treatment from being carried out. Death occurred in eight weeks from meningitis. The necropsy presented a number of cranial defects, into which the dura mater covering the tumour protruded. The tumour itself proved to be a gliosarcoma of the large left frontal lobe, extending to the neighbourhood of the lateral ventricle, which was dilated; it was softened in the centre. After the application of the drainage, the epileptic attacks ceased.—*London Medical Record*, August 15, 1880.

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Unilateral Convulsions due to Brain-Disease.

An analysis of more than 500 cases has led Dr. BROWN-SÉQUARD to the following conclusions as regards unilateral convulsions due to brain-disease. 1. These convulsions can be caused by a lesion in almost any part of the brain. 2. They can be produced by any kind of lesion. 3. They can be associated with any other symptom of brain-disease, or may be, for a time or till death, the only symptom existing. 4. They can appear at once in all parts of one side of the body, or begin in any muscle or group of muscles (eye, face, neck, trunk, or limbs). 5. They can pass into general convulsions or follow such convulsions. 6. They usually last longer than general convulsions due also to brain-disease, and still longer than genuine idiopathic epileptic convulsions. 7. They often appear without loss of consciousness, either at their beginning or at any time of an attack. 8. They can take place either on the side of the brain-lesion which causes them, or on the opposite side, the cross convulsions being more frequent than the direct ones. 9. The right limbs are attacked more frequently than the left, in cases of direct or of cross convulsions, and also when unilateral convulsions appear in cases of lesion in the two cerebral or cerebellar hemispheres. 10. In the same individual and from a single lesion, unilateral convulsions can appear at first on the side of the lesion and then on the opposite side, or *vice versâ*. 11. These convulsions can appear on the side of hemiplegia or on the opposite side, the paralysis in either case, being a cross one; but they can also be direct when

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the paralysis is also direct and cross while the paralysis is direct. 12. Direct unilateral convulsions are more frequently produced than cross ones by lesion of the great cerebral ganglia, the crura cerebri, the cerebellum, the pons Varolii, the medulla oblongata; while, on the contrary, cross convulsions are much more frequently than direct ones caused by lesions of the centrum ovale or the convolutions. 13. In animals, as he had found, an irritation of the base of the brain and even of the motor part of the crura, the pons, and the medulla (the anterior pyramid) generally produces muscular contractions on the corresponding side; while irritation of the so-called motor centres, or of the fibres uniting these parts with the cerebral ganglia, usually produces movements on the opposite side, so that the same general effects are generated in animals as in man. 14. Jacksonian convulsions (either when exclusively and persistently unilateral or only temporarily so) can appear on the side of the lesion, or from lesion in parts of the brain considered as not belonging to the motor apparatus. 15. The study of unilateral convulsions brings forth a large number of facts altogether in opposition to the views now held about cerebral localization. 16. The diagnostic significance of unilateral convulsions is often considerable, owing to the association of this symptom with other cerebral morbid manifestations.—*British Med. Journ.*, Aug. 28, 1880.

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On Paralytic Chorea.

At the recent meeting of the British Medical Association, Dr. W. R. Gowers read a paper, the object of which was to direct attention to a variety of chorea which sometimes presented a difficulty in diagnosis. Three symptoms might ordinarily be recognized in chorea: spontaneous movement, inco-ordination of voluntary movement, and muscular weakness. These were not always proportioned. Any one of them might so predominate as to give a special character to the case. In the form now considered, the last-named element (muscular weakness) predominated, and appeared, at first sight, to be the only symptom. A series of illustrative cases were narrated. The arm was always the part affected, and the muscular weakness, which alone was noticed by the friends, and sometimes by the medical attendant, might be very great and real. In some cases, however, the natural weakness might be less than the loss of use would suggest. There was no weakness of face, tongue, or leg. Close observation would, after a time, usually detect a slight occasional choreiform twitch, but this might be quite absent. There might be marked twitching in the other arm, which was not weak. The affection might pass off without more conspicuous spasm. Sometimes choreiform movements become more marked as power increased. The course of this form was often tedious, but did not pass into severe general chorea. The variety was brought under the notice of the Section chiefly on account of the diagnosis; since, in several cases which had come under the author's notice, the nature of the affection had been misconceived. In his experience, whenever a child, between the ages of seven and fifteen, presented gradual loss of power in one arm, without affection of the face, tongue, or leg, the disease was always chorea. Even although choreiform movements might not be observed, the subsequent progress of the case would always justify the diagnosis. The paper concluded with some remarks on the possible relation of the change in the nerve-elements in this form to that which underlay ordinary chorea.—*British Med. Journ.*, Aug. 28, 1880.

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Symptoms in Menière's Disease.

J. Gottstein (*Zeitschrift für Ohrenheilkunde*, Band ix.) arranges the forms of disease connected with deafness and disturbances of equilibrium (Menière's

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disease) in two groups: 1. Those in which the affected persons, mostly children, present symptoms which may be called meningeal irritation, are ill for a shorter or longer time, and after complete recovery retain the deafness and the staggering walk; 2. Those in which deafness and giddiness suddenly appear without disturbance of the general health. The cases of the first group are referred by the author to cerebro-spinal meningitis, contrary to the view of Voltolini, who includes them under the name of "otitis labyrinthica." This view is supported by the circumstance that, among 254 patients with ear disease, who came under treatment from March to October, 1879, twenty-five cases were found with the so-called otitis labyrinthica. It almost seemed as if there were an epidemic of this affection. Six cases must be excepted, the beginning of which dated a year and more back. Among the remaining nineteen cases there were again six, in which, partly with certainty and partly with more or less probability, meningitis was found to be the starting point of the symptoms of Menière's disease. In the remaining thirteen cases, there was fever with violent headache, and in two cases only was vomiting absent at the beginning of the disease; in nine of them there was more or less profound benumbing of the sensorium; in three cases only, fever, headache, and vomiting, were the sole symptoms which preceded the ear-disease. All the patients, except one, belonged to the classes who live on poor food, and their ages varied from two to sixteen years. With regard to this phenomenon, and to the circumstance that an epidemic of cerebro-spinal meningitis prevailed (in Silesia) at the time when the author observed these cases, Gottstein does not hesitate to connect them with this epidemic. Of what nature the morbid process is which affects the organ of hearing in this malady, he has not been able to determine, in consequence of absence of anatomical and pathological researches. Of cases of the second group, which, on account of the suddenness of the onset, Gottstein designates an apoplectic form of Menière's disease, the author has seen three only. In all these, the affection was of a secondary nature. In the first case, the primary malady was tabes dorsalis; in the other two, leukæmia. The author desires by his contribution to give a stimulus to the decision of the question, whether the genuine disease of the acoustic nerve in its course and in its termination occurs really so frequently as it has been hitherto assumed.—*London Med. Record*, Aug. 15, 1880.

Primary Carcinomatous Hæmorrhagic Pleuritis.

Dr. SAVARD (*Progrès Méd.*, 1879, No. 31) relates the case of a patient, aged 40, who was received into the hospital on the 7th of January. He stated that, twenty days previously, he had a sudden rigor, with cough, difficulty of breathing, and acute pain in the left side, which compelled him to leave off work; it returned in the following day, although somewhat milder. His appetite was nearly lost, and he had bloody expectoration after the lapse of eight days. The left side of the chest was enlarged and immovable; from apex to base there was a dull percussion-sound, whilst the right side was everywhere sonorous. Blowing breathing was heard on the left side; the pectoral fremitus appeared very weakened, the heart was displaced towards the right. There was also slight œdema in the left chest, although the patient lay mostly on the right side. On account of severe dyspnœa, punctures were made on the 9th, 10th, and 13th, by which 1000, 1200, and 1500 grammes of fluid, containing much blood, were evacuated. There was almost no change in the physical state after the punctures; the subjective symptoms were indeed improved for a short-time, but the gain was only temporary. The patient sank visibly, soon began to be delirious, and died on January 22d. At the dissection, an effusion, with much blood, was found in the left pleural cavity. The pleura itself was covered with a hard membrane,

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two centimetres thick; the lungs were compressed to the size of a fist, and pressed against the vertebral column, and section showed them to be permeated with hard masses, apparently of a cancerous nature. On microscopic examination, the dense deposits on the pleura were seen to consist of organized connective tissue, fenestrated with numerous cavities lined with epithelial cells, so that at first sight the disease appeared to be alveolar cancer. The cells lining the wall were not everywhere cylindrical, but showed in some of the spaces a cubic appearance. The case was therefore essentially one of epithelioma (épithéliome métatypique, Malassez), the original source of which cannot be ascertained exactly. In the only case analogous to the present one, described by Malassez, a cancer had passed from the lungs into the pleura. In the present case, however, there was found in the lungs a less characteristic state, so that the possibility of the origin of the cancer in the pleura cannot be excluded. If this cancer belonged primarily or secondarily to the pleura, the clinical phenomena were highly characteristic; viz., the abundant hemorrhagic effusion, its speedy return after evacuation, the œdema of the thoracic wall, the bloody expectoration, and especially the slight change in the physical signs after puncture. Nothing but the acute onset of the chest-symptoms could lead to an error in diagnosis.—*Lond. Med. Record*, Aug. 15, 1880.

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On the Curability of Attacks of Acute Phthisis (Galloping Consumption).

Dr. T. M. McCall Anderson, of Glasgow, at the late meeting of the British Medical Association read a paper on this subject, of which the following is a brief abstract.

By the term acute phthisis, the author meant an acute pulmonary affection, accompanied by high and continuous fever, running a rapid course, and leading invariably to more or less destruction of lung-tissue if the patient survived long enough. He recognized three varieties of the disease: 1. Acute pulmonary tuberculosis; 2. Acute pneumonic phthisis; 3. Acute pneumonic phthisis complicated secondarily with the development of gray miliary tubercles. He thought it impossible to distinguish the second from the third variety during life, but that the first might be suspected when the disease set in suddenly with high fever, great prostration, profuse perspiration, lividity, and great acceleration of breathing, and when these symptoms were *out of all proportion to the results obtained from a physical examination of the chest.* Having given extracts from the writings of Walshe, Trousseau, and others, showing that the profession was very hopeless as to such cases, he pointed out that, in a good many cases, he had obtained excellent results from treatment, of which the following was an outline; 1. Careful skilled nursing, with constant feeding, and stimulants in small quantities often (from 4 ozs. to 10 ozs. daily); 2. Each night a subcutaneous injection of $\frac{1}{100}$th to $\frac{1}{60}$th of a grain of atropia; 3. Remedies specially adapted to the removal of fever; (*a*) ice-cloths to the abdomen; (*b*) quinine, 10 to 30 grains, in a single dose, once daily; (*c*) a pill, composed of one grain of quinine, half a grain of digitalis, and from a quarter to three-quarters of a grain of opium, every four hours. In addition to this, special symptoms—diarrhœa, constipation, and the like—must be treated on ordinary principles, and, of course, the treatment indicated must not be used in a mere routine way, but adapted to the surroundings of each individual case.—*British Med. Journal*, Aug. 28, 1880.

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Calcium Salicylate in the Serous Diarrhœas of Infants.

Dr. Alexander Hutchins, of Brooklyn, has treated in private practice, within the past three months, some twenty-seven cases of serous diarrhœa in in-

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fants, ranging from two months to two and one-half years of age, using calcium salicylate only; that some of the cases were seen but once, many only twice, and none above four times; that, in all, the disease is known to have been promptly and permanently controlled, justifies his calling attention to this method of treatment.

Whenever the dejecta were of the serous character, whether the flux was more or less profuse, in all the cases where the tendency is to cholera infantum, when collapse is to be looked for from excessive drainage of the serum, the calcium salt acted promptly in checking the frequency of the movements—ultimately in controlling them, and with a promptness and efficacy that the writer has never experienced by any other mode of treatment. The patients ranged in age from two months to two and a half years. No discrimination was made as to diet, which, in some instances, was breast milk exclusively, in others, condensed milk, the patent foods, or a mixed diet. In no case was any modification of the previous diet called for, save in the matter of quantity. All the patients were in good social and hygienic surroundings. In all cases the dose was 3 to 5 grains from 2 to 4 hours. The total quantity consumed by each patient varied between 6 and 18 powders. In a few cases minute doses of aconite and veratrum were given during the stay of the high temperature, and in other few, small doses of quinia were followed up after the subsidence of the disease.

It was noted that the medicine seemed to have no influence in changing the secretions so as to modify the character of the evacuations. The discharges would be under control for a time, say from 2 to 12 hours, and the next movement would be a watery one, but there would be no further recurrence of the diarrhœa. There might be a return to normal movements, or there might be a change to a diarrhœa of indigestion, or to a diarrhœa from irritation of the mucous surface, each of which would require some special interference. These sequelæ were exceptional, but in no case did the serous discharge recur.

It was noted, likewise, that this treatment necessitated very little interference with the usual diet of the child. It would be nearer the exact fact to say that no interference was required. In the majority of cases the discharges were so promptly checked that an indigestion did not occur.

It was further noted that the calcium salt had no appreciable effect on any one of the other forms of intestinal flux, whether lienteric or inflammatory. The serous diarrhœa alone seemed to be amenable to this drug. Each of the other forms required special treatment.

An additional fact was noted, that the vomiting accompanying these diarrhœas was controlled so soon as the medicine began to show its effect on the discharges. Certainly without exception the stomach tolerated the presence of the drug.

The medicine is administered by mixing the 3 or 5-grain dose in a teaspoonful of sugar, adding a few drops of water at a time till the whole is thoroughly moistened, and then thinning it with water so that it can be easily swallowed.

In the process of mixing the powder an effervescence occurs, which the prescriber recognizes as due to the release of carbonic acid in the formation of the new salt. Also in the process of mixing, a pungent odor of chlorine is not infrequently perceived.—*Proceedings of Med. Soc. of County of Kings*, Sept. 1880.

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Surgery.

Malignant Syphilis.

Dr. KROWCZYNSKI, of Lemberg, enters at some length into the history of syphilis, and particularly of its more severe forms. He then relates the following case (*Vierteljahresschrift für Dermatologie und Syphilis*, 1 Heft, 1880): An unmarried woman, aged 30, of healthy appearance and good muscular development, was admitted into the hospital on November 4, 1875. The patient stated that her present illness began in October, and followed intercourse with a man who was afterwards ascertained to be suffering from syphilis. On examination, two indurated sores were found in the neighbourhood of the commissure. Both labia were œdematous, and the inguinal glands were enlarged, hard, and free from pain. There was also a white discharge from the uterus. A lotion of sulphate of copper for the sores, and a vaginal injection, were ordered. The ulcers soon began to spread, and were dressed with powdered camphor. On the 8th November they had united, forming a large horseshoe-shaped gangrenous sore. The inguinal glands became larger and tender on pressure. The strength decreased, and on November 20 shivering took place with a temperature of 100.4° Fahr. Nov. 21.—Temperature, morning, 101.8°; evening, 102°. The temperature remained above 101.4° until Dec. 9, on which day there was a violent shivering fit, with headache, pains in the limbs, and general malaise. The spleen was enlarged. The urine was free from albumen. On Dec. 10 a general measles-like rash appeared. Temperature, morning, 101.8°; evening, 131°. The ulcer of the genitals remained as before. During the following six days the temperature was always below 101°. On the 15th shivering again occurred, the evening temperature being 103.5° Next day the eruption had become papular, the papules being about the size of a lentil. The temperature during the following ten days fluctuated between 100.4° and 101.4°. On Dec. 25 there was a third attack of shivering, the temperature rising to 103.5°, and a red halo was noticed round each papule. Vesicles and pustules now appeared on the skin, and the temperature fell to 100.8°. The pustules ruptured, and left small ulcers. On Jan. 15, 1876, the ulcers were of the size of half-crowns, but the general condition had slightly improved. The general ulcer remained as before as to size, but was cleaner, and granulations were springing up at the edges. The patient from this time improved steadily; the temperature fell to 100°. The appetite returned, and the ulcers on the body began to heal. On March 27 the primary sore was healed. On April 3 syphilitic patches on the palatine arch were noticed for the first time. The ulcers of the skin healed, but left raised hypertrophic scars, which soon afterwards broke down into ulcers. The subsequent cicatrization occupied some time. No further relapse took place after this; but the patient remained in the hospital until January 4, 1877, by which time she had completely recovered. The man from whom she had contracted syphilis was now traced, and was found to have suffered very mildly, condylomata on the genitals and in the throat having been his only symptoms.—*London Med. Record*, Aug. 15, 1880.

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Removal of Encysted Tumour from Conspicuous Positions without leaving any mark.

Mr. PHILIP FOSTER, of Leeds, states (*Med. Times and Gaz.*, Aug. 7, 1880) that this kind of tumour may, unless very firmly adherent, be easily removed by making a small incision into the cyst only just large enough to allow its contents to escape, completely emptying it by pressure, and then seizing its edges, which

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will be seen to project, and drawing it out. Even should a portion of the cyst be left, in all probability the tumour will not reappear. When unable to get away any part of it, I have succeeded in effecting a cure by scarifying its interior, and so setting up adhesive inflammation. Three or four days after these operations not the slightest mark or trace of their having been performed can be detected.

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Scarification as a Remedy in Skin Diseases.

Mr. MALCOLM MORRIS, Joint-Lecturer on Dermatology in St. Mary's Hospital Medical School, believes (*British Med. Journal*, Aug. 7, 1880) that multiple linear scarification deserves more notice, as a remedy in certain forms of skin disease, than has yet been bestowed upon it. In as far as concerns the application of it to port-wine marks, suggested by Mr. Squire, he has found it to be practically valueless, owing to the length of time required to produce any visible alteration or improvement; nevertheless in acne rosacea and in lupus erythematosus he thinks that Mr. Squire's system of multiple linear scarification shows an advance on the old method of operating with a single scalpel, advocated by Hebra and Volkmann.

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Short-Sight and School-Books.

According to M. JAVAL (*Bulletin de l'Académie de Médecine*, No. 44) three factors contribute towards the production of myopia in school-children: 1. Organic predisposition; 2. The influence of the medium; 3. The nature of the objects to be looked at. The first factor cannot be modified; the influence of the second can be diminished by suitable lighting of the class-rooms, though not without considerable expense; as regards the third, it is desirable that the employment of defective type in books for public schools should be prohibited. Type for young children should be large, and should gradually decrease in size according to the increased age of the scholar.—*London Med. Record*, July 15, 1880.

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Treatment of Cleft Palate.

At the last meeting of the German Surgical Congress in Berlin, Herr J. WOLFF showed a patient on whom he had performed uranoplasty and staphylorraphy with complete operative success, but, as generally happens, without improvement of the patient's speech. He succeeded, however, in having an obturator made, which could be inserted without reopening the palate, and which had yet made the speech normal, as has been proved by making the patient read. The obturator consisted of vulcanized soft India-rubber; it was hollow inside, and filled with air, and was consequently elastic and compressible, and allowed the co-operation of the muscles of the velum in pronunciation. The experience derived from this case showed the necessity of operating on the fissure of the palate in every case. Whilst, hitherto, there had always been a liability that it might be necessary again to cut open the newly-formed palate after a perfectly successful operation, in order to introduce Suersen's obturator, there could be no question now of such liability. The operation must in future be successful as regards speech, either directly or with the assistance of exercises in speaking, electricity, etc., or with the assistance of the elastic obturator.—*London Med. Record*, Aug. 15, 1880.

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Singular Obstruction of Wharton's Duct.

At a recent clinic Prof. RICHET drew attention to a curious case in the person of a young man who, while eating some bread, was seized with a sudden lanci-

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nating pain, the tongue being so much raised by a swelling which took place under it that the patient could hardly speak. The nature of the foreign body which it was supposed to be in Wharton's duct was sought for in vain, when a day or two after the patient felt with his tongue the sharp point of some object. This could not be seen, but some days later a very minute fragment of straw was removed from the duct. This probably had been in the bread, and became introduced into the duct during mastication. In a well-known case of Robert's a bristle became engaged in the canal.—*Med. Times and Gaz.*, Aug. 28, 1880, from *Gaz. de Hôp.*, Aug. 17.

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The Use of the Hot-Bath in Strangulated Hernia.

In a late paper Mr. EDMUND OWEN, of London, argued that since the days of Pott, Hunter, and Cooper, there had not been that marked improvement in the treatment of strangulated hernia which the introduction of chloroform ought to have insured; that those "surgical warriors" employed the hot bath, venesections, and the nauseating doses of antimony for the simple reason that they knew of no better way of obtaining muscular and nervous exhaustion; that they were doubtless well aware that such depressing treatment would not improve the chances of recovery of the patient who should eventually be submitted to operation. He confessed that he did not understand the precise physiological action of the hot bath in aiding in the return of a strangulated bowel; Mr. Birkett spoke of it as exerting a powerful but uncertain influence over the vascular, nervous, and muscular systems. Mr. Owen maintained that an anæsthetic would supply all the advantages which the hot bath could pretend to afford; that it was a direct means of economizing time; and that, last but not least in order of importance, it saved the patient and the tender bowel that desperate employment of the taxis which the steaming bath often seemed to suggest to the medical attendant, who, with his coat off and his shirt-sleeves rolled up to the shoulders, intended having a final try at reduction. Mr. Owen agreed with Mr. Bryant, who urged that the taxis should never be employed without an anæsthetic, and that, the reduction of the hernia failing to be accomplished, the operation should be at once performed. Although strongly inclined to do so, he would not argue that the hot bath should never be employed in the treatment of a large strangulated hernia; all that he could say was, that in such cases the manipulation might effect less serious harm, on account of the constricting force being distributed around a more considerable mass of tissues; but that, in the case of a small inguinal hernia, or of a femoral hernia, large or small, its use was unadvisable, whilst for a recent small strangulation it was positively harmful. In conclusion, he asked for an expression of opinion as to whether the routine employment of the hot bath in the treatment of strangulated hernia was not a superstitious and dangerous remnant of antiquated surgery.

Mr. JOHN WOOD (London) expressed his hearty concurrence in the views just expressed. He had long been of opinion that the use of the hot bath for strangulated hernia, instead of being beneficial, was positively injurious; and that on these grounds—that the application of heat caused the dilation of the gases in the bowel, enlarged the hernia, and increased the difficulties under which the operators laboured. He had been accustomed in these cases to the application of a bladder of ice for an hour.—*British Med. Journal*, Aug. 28, 1880.

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Chancrous Folliculitis.

M. GOUGUENHEIM read before the *Société Médicale des Hôpitaux* a paper on this subject, which he had prepared in conjunction with M. Bruneau (*La France*

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Médicale, April 14, 1880). The following are the conclusions arrived at by the authors. Chancrous folliculitis, or follicular soft chancre, is an affection which attacks most frequently the external surface of the labia majora. This lesion presents a pimply follicular character, which often causes it to be confounded with simple acute folliculitis. The follicular appearance may persist throughout, or it may disappear after a few days, the lesion taking the ordinary aspect of the simple chancre. The simple chancre is often coincident with the follicular chancre. Chancrous folliculitis often succeeds the simple chancre, but the converse may occur. Chancrous folliculitis may exist alone, independently of any other ulcer. Implication of the inguinal glands is rare. The chancrous follicle goes through its evolution in three of four weeks. The follicular soft chancre is inoculable; but inoculation, contrary to what nearly always happens in the ordinary soft sore, has presented in some cases a period of incubation of from eight to twenty days. The diagnosis of the affection, when unaccompanied by ordinary soft chancre is impossible without inoculation. Most cases reported by authors as simple acute suppurative folliculitis, without the test of inoculation, may be regarded as cases of chancrous folliculitis. The existence of simple acute suppurative folliculitis of the vulva is hypothetical. Secondary suppurating folliculitis may be merely a follicular soft chancre developing on syphilitic ground.—*London Med. Record*, Aug. 15, 1880.

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Primary and Secondary Amputation.

Prof. RICHET, in a lecture delivered at the Hôtel-Dieu (*Union Méd.*, July 8), made the following observations on the question of primary amputation etc.:—

"I think I ought to acquaint you with the reasons which determine me only very rarely to practise amputation immediately after great injuries, and only when my hand is forced. At all epochs surgeons have been divided in opinion as to which of these two procedures it is most advantageous to have recourse. As far as I am concerned, during the first third of my career I was a convinced partisan of the necessity of immediate amputation, and cannot therefore blame those who practise it at the present time with a conviction as strong as that which I then entertained. But I have gradually become converted to secondary amputation, and am now one of its most earnest defenders. The theory of immediate amputation appears, indeed, at first sight, very seducing. It would seem that a patient in whom a violent injury had torn the muscles and crushed the bones could only be the gainer by substituting for this tearing and crushing a clean and regular wound—in one word, a surgical wound. Unfortunately, the practical results do not agree with the theoretical view and reasoning. In the different hospitals in which I practised surgery at the beginning of my career—at the St. Antoine as well as at the St. Louis—I found the patients on whom I had performed amputation succumbing within the forty-eight hours. Malgaigne, to whom I communicated my want of success, told me one day that he had gone through the same experience, and this it was which determined him to investigate the results of these immediate amputations. He avowed that the statistics were frightful, and that the mortality attained the figure of 86 per cent. So elevated a mortality seems of itself sufficient to prevent a surgeon following this practice; but it is of interest to seek for its reasons.

"When an individual has undergone a violent injury, his nervous system is greatly shaken by it, his pulse is depressed, and his temperature notably lowered —in a word, he is suffering from what is known as traumatic shock. Not only is the temperature lowered, but the circulation is delayed to such a point that the soft parts soon assume a violaceous colour, and then become gangrenous, at

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least in places. Soon there supervene intramuscular tumefactions and subcutaneous emphysema, the precursor of sphacelus. There already exists in all these cases manifest disturbance in the two greatest apparatus of the economy—functional disturbance of the nervous system and of the circulatory system—and all of a sudden is added to these pre-existing disturbances the new shock of a mutilation. It is certain that a considerable moral depression, caused by the loss of a limb, is added to the physical depression; and this moral depression should be largely taken into account, owing to the chances of the failure of the operation. But this is not all. It will happen—not in hospitals, in which usually but slight resistance is offered to the propositions of the surgeon, but in private practice—that we meet with a refusal when we have declared that immediate amputation is necessary. What happens then? If the patient dies, it will be said that he must have died under any circumstances, and would have done so more quickly under the operation. But if he recovers—escapes, as it is called—which is not rarely the case, the surgeon and surgery will both become the objects of serious and painful blame, which is also a grievous thing. Even when the patient, as is sometimes the case, does not succumb very soon after the operation, you must still not think that he will be preserved from all consecutive danger. He will continue exposed to those purulent burrowings which so frequently follow the intramuscular sanguineous effusions. Then there are the muscular retractions and conical stump. Suppose, on the other hand, you decide for abstention, there will be necessarily a considerable number of cases prove fatal; but you may feel assured that these belong to the class of those for whom immediate amputation would certainly not have proved of any avail. Others, fewest in number, will traverse the first accidents with success. The nervous system recovers itself little by little, the circulation regains strength, and the temperature rises; and, as a consequence, two or three days afterwards, normal inflammatory phenomena begin to appear. Is this, then, the moment at which amputation will have the *greatest chance* of success? Not yet. Such, at least, was the opinion of Velpeau and of Roux, with which I entirely coincide. They never operated before the fifth or sixth day, and this also is my habit of proceeding. I may finish with an anecdote which may impress this practice on your memory. Questioned one day by a *confrère*, who asked me, pointing to a patient upon whom I was delaying the operation, 'What is your object in waiting in this case?' 'I am waiting,' I replied, 'until he asks me himself to operate; and that will not be very long, for he accustoms himself to the idea on seeing that it is no longer possible to save the limb. The operation will then become a deliverance, instead of a sacrifice—a sacrifice on which he would now not decide without repugnance.'"—*Med. Times and Gaz.*, August 21, 1880.

Fracture of the Head of the Radius.

Professor BRUNS, of Tübingen, in an original contribution to the *Centralblatt für Chirurgie*, No. 22, 1880, on fracture of the head of the radius, states that this lesion demands more attention from surgeons than it has hitherto received, and ought to be included in the list of typical fractures, as its origin and the form of the fracture are characteristic and regular, and it is not of very unfrequent occurrence. In addition to one case observed by himself, the author has collected from surgical literature twenty cases in which the nature of the lesion had been proved on anatomical investigation. These numbers, however, it is stated, give no idea of the frequency of the lesion, since the diagnosis is frequently attended with much difficulty, and in some cases is impossible.

In this injury the joint is involved, and the fracture takes a vertical or oblique direction from the superior surface of the bone, detaching a portion of the head.

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The lesion is quite distinct from transverse or oblique fracture of the neck of the radius, by which the head *in toto* is separated from the diaphysis. Of the former lesion there are two forms—incomplete and complete fracture. The incomplete fracture has been produced experimentally by Bruns, and five clinical instances have been observed by Malgaigne and other surgeons. In the incomplete form, the line of fracture commences at the discoid articular surface, in some cases nearer the periphery, in others nearer the centre, passes down the neck, and ends at a blind extremity, so that the fragment still remains attached by a bridge of bone. The broken surfaces sometimes remain in close contact, sometimes diverge, and are separated by a wide gap. This form of fracture may be a fissured one, the head having been broken into a number of fragments, each of which remains attached at its base. In a case recorded by Verneuil, there was a well-marked T-shaped fracture.

In complete fracture, a larger or smaller fragment is wholly detached in most instances from the anterior portion of the head, rarely from the lateral or posterior portions. In this form the head is rarely broken up into several pieces. If the fracture be limited to the head of the bone, it is purely intra-articular; the fragment lies almost free in the joint, being attached only by a portion of ligament. If the fracture involve both the neck and the head of the bone, it is partly intra-articular, partly extra-articular, and free mobility and displacement of the fragment are prevented by the annular ligament.

In five only of the twenty-one cases collected by Bruns, was fracture of the head of the radius an uncomplicated injury. These numbers, however, it is pointed out, do not really represent the proportion of complicated to uncomplicated cases; since, in consequence of the slight symptoms of the simple fracture, and the difficulty of its diagnosis, the injury may be readily overlooked, or its true nature mistaken. In most of the complicated cases, the fracture was made out by direct observation after the death of the patient through concomitant lesions, or on resection of the injured joint. The most frequent of the various complications of fracture of the head of the radius is fracture of the coronoid process.

The most frequent causes of the fracture are a fall on the flexed elbow or on the extended hand, and direct injuries from the fall of a heavy body, from machinery, or from a gunshot wound. In fracture from indirect violence, which is of more frequent occurrence, it is very probable that the lesion is produced through the corresponding portion of the lower articular surface of the humerus, the *eminentia capitata* being driven with such force against the discoid articular surface of the radius as to compress and break away a portion of the latter bone. The fracture, for anatomical reasons, is more likely to occur in the extended than in the flexed position of the forearm. In full extension, the posterior half of the articular surface of the head of the radius is free, and projects posteriorly beyond the end of the humerus, the full force of which, in case of a fall on the hand, is applied wholly to the anterior half of the radial articular surface. In flexion of the forearm, the whole of the upper surface of the radius is in contact with the articular extremity of the humerus. The opinion of Bruns as to indirect fracture of the head of the radius being the result of force acting with the forearm in an extended, and not, as is supposed by some, in a flexed position, is confirmed by the fact of the frequent occurrence, as a complicating lesion, of fracture of the coronoid process, which injury, as has been proved by the investigations of Lotzbeck and Urlichs, is almost always the result of a fall on the over-extended hand and forearm.

Bruns has succeeded in producing the fracture experimentally. On striking with much force the head of the humerus in a removed upper limb, the forearm

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being extended, and the palm of the hand applied to the ground, he has twice produced a fissured fracture of the head of the radius, and once a fracture, with detachment of its anterior portion. It is mentioned, however, that Von Lesser and Urlichs have effected a like result with the forearm of the detached extremity flexed at a right angle.

It is believed that, if the attention of surgeons in future be directed to this lesion, its diagnosis on the living subject will become more exact. Some help will be given by a clear history of the way in which the injury was produced, and by the presence of such a complication as fracture of the coronoid process. If a portion of the outer margin of the head of the radius have been broken off, a movable fragment of bone might be felt, and at the same time, with alternate movements of supination and pronation, crepitus might be made out. In an instance of incomplete fracture, with a wide gap between the partly detached fragment and the head of the radius, the end of the bone will feel as if enlarged, and present an abnormal prominence. An injury of this kind is very liable, as was shown in a case recorded by Malgaigne, to be mistaken for incomplete luxation of the head of the radius.

From seven of the author's collected observations, information was derived as to the usual mode of healing after fracture of the head of the radius. In three instances there had been osseous consolidation with some dislocation of the small fragment; in one case upwards, in another directly downwards, and in the third case outwards. In one case, the fragment had united with the coronoid process. In each of the remaining three cases, the fragment had been converted into a free articular body.—*London Med. Record*, Aug. 15, 1880.

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Diagnosis of Fracture of the Neck of the Femur.

Dr. BEZZI draws attention, in *Lo Spallanzani*, Nos. 1 and 2, 1880, to a sign which is pathognomonic of fracture of the neck of the femur, but which is not generally known. In examining the space between the trochanter and the crista ilii, it will be found that while, on the sound side, the muscles occupying this region (the tensor vaginæ femoris and the gluteus medius) are tense, and offer to the hand a considerable feeling of resistance, they present on the affected side a deep, well-marked depression, a flaccidity and diminution of tension, from displacement upwards of their points of insertion.—*Glasgow Med. Journal*, Sept 1880, from *Centralblatt f. Chirurg.*, July 31, 1880.

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On the Mechanism of Gunshot Fracture of the Long Bones.

At the meeting of the German Surgical Congress in April last, Dr. BORNHAUPT, of St. Petersburg, read a paper on this subject. It was an extract from a larger work in the Russian language, having reference to Reyher's collection of preparations of gunshot fracture. Herr Bornhaupt assumed that real perforating gunshot wounds of bone are rather rare; they are mostly complicated with fissures, which, however, are less the result of commotion than of a direct action of force. The most simple case is the wedge-like action on the epiphyses, in which the fissures, issuing from the track of the shot in the bone, may extend perpendicularly upwards and downwards, without perforating the articular cartilage. Such fissures are more or less frequent, especially when great force is applied, *i. e.*, when the channel made by the shot is long. The explanation of the forms of fracture in the diaphysis is more difficult. They sometimes resemble a stick bent in its longitudinal axis; or a ring, compressed from two opposite sides. In the first case, there may be simple transverse fractures (mostly through spent

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bullets), in the second, two, three, or four longitudinal fissures. If the diaphysis be injured more towards the middle part, then the two mechanisms combine in the production of a typical form of fractures, viz., of the "spiral longitudinal fracture." The bone divides into four fragments; in addition to an upper and lower, two triangular splinters are to be found opposite the part which has been struck, forming what Bornhaupt calls the posterior longitudinal fissure. He thinks that, when the bullet has not hit directly the posterior wall of the bone, the longitudinal fissure originates through direct force, and not through the hydraulic pressure of the marrow. As the proof of this, as well as of the following statement, he described experiments on a glass cylinder, and showed that the typical fissures often do not occur in so distinct a form, and that, on the contrary, the bullet comes a second time into contact with the wall of the bone, and produces fissures of exit with many, often forty or fifty splinters, extending through more than half the length of the diaphysis. Herr Bornhaupt had never seen healed fractures of that kind in the femur, to which principally his discussion referred. In less firm, but more inflexible bones, the circumstances become more complicated; they may, however, be traced always to compression, and not to commotion. The further comparison with the splintering of glass, as well as the consideration of the histology of the spongy tissue described by von Ebner, prove that it depends on the manner in which the force is applied, whether the brittleness or the fissibility of the bone is affected; whether the bone breaks like glass, or splits like wood. Spiral fractures were explained as resulting either from embryonic torsion of the structure of the bone, or according to Koch and Filehne, from a twist at the moment when the force is applied. In conclusion, Herr Bornhaupt discussed the reaction which the bone-splinters exercise on the form of the bullet, the increase of the destruction by the latter and other subordinate factors, as, for instance, the presence of pieces of ammunition, which form at the same time centres of infection, and the secondary fractures of the primary splinters, for the study of which he most earnestly recommended experiments on fresh preparations.

Herr VON MOSENGEIL (Vienna), differing from the author of the paper, pointed out circumstances in which a simple perforating fracture, admitting mostly of a favourable prognosis, might occur. He further laid stress on the differences which the quality of the material of the bullet produces in the kind of fracture.

Herr VON LANGENBECK opposed the conclusions which might be drawn from the statements of Herr Bornhaupt, against the possibility of *débridement* in extreme cases of splintering of the humerus and femur. He thought that, if in such cases the wound were laid open very early, and the loose splinters extracted, it was possible to save the limbs and life of the wounded, especially if materials for antiseptic dressing were at hand.

Herr BORNHAUPT thought that a distinction must be made, whether the bullet had struck one or both walls; in the latter case, one could not think of saving the limb, on account of the extent of the destruction, and in the former, one could not think of extraction on account of the size of the splinters.

Herr VON LANGENBECK said that might be correct as regards the femur, but not the humerus.

Herr BORNHAUPT admitted this. Recovery occurred in many gunshot fractures of the upper arm.

Herr VON LANGENBECK said that healing did not follow in all cases. He had been successful in a late extraction of splinters, but not in an intermediate one.

Herr SCHMIDT (St. Petersburg) stated his experience in the last Russian-Turkish war, regarding the healing of gunshot fractures without extraction of splinters. The latter was only necessary if sepsis occurred, but still there were many indi-

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vidual differences existent. The Turks especially resisted septic poisoning better than other nationalities.

Herr VON LANGENBECK was of the same opinion.—*London Med. Record*, August 15, 1880.

Midwifery and Gynæcology.

Measles in Relation to Pregnancy and the Parturient State.

From a study of the literature of this complication of pregnancy and parturition Mr. CHARLES E. UNDERHILL (*Obstetrical Journal of Great Britain*, July, 1880) finds it to be a rare complication of this condition, due probably to the fact that most adults are protected by an attack of the disease during childhood, but that when it occurs in pregnancy it is a very serious occurrence, and is a frequently fatal complication of both pregnancy and parturition. Mr. Underhill believes measles to be most fatal when it comes on soon after delivery, while those who are confined during the course of the disease stand a much better chance of surviving it.

Secondary Syphilitic Affections of the Vagina and Uterus.

M. MARTINEAU devotes a clinical lecture, reported in *L'Union Médicale*, May 13 and 16, 1880, to the consideration of secondary affections of the vagina and uterus, and refers to five cases which were in the Hôpital de Lourcine under his care. Vaginal and uterine syphilides are rare. Among 522 women with syphilis of the vulva, Fournier found twenty-five cases of cervical, and nine of vaginal syphilides. According to Martineau's experience the lesions are situated with almost equal frequency on the cervix uteri and vagina; of the five cases the vagina was affected in two, the uterus in one, and in two both uterus and vagina were involved.

Syphilides of the Vagina may be situated at the vulvo-vaginal orifice, or on the posterior or anterior vaginal wall. About the vulvo-vaginal orifice erosions and ulcers are seen; papules are more rare. When situated on the posterior vaginal wall the lesion is nearly always papular, and appears as a small round or oval papule of the size of a pin's head to that of a lentil, red, grayish, or whitish in colour. The number of the lesions varies usually between four and six, but there are occasionally more. In one case there were fifteen papules. They appear usually about the eighth week after the commencement of syphilis, but exceptions are numerous. Only two out of the five cases corresponded to this period. In the others, the lesions appeared later, viz., eight months and one year after the initial lesion. There is great difficulty in fixing the exact time of appearance, because the initial lesion in women often goes unnoticed. The syphilides also occur unknown to the patient and disappear without complication.

Syphilides of the Uterus may be erosive, papular, or ulcerating (the author has never seen roseola of the uterus). The erosions appear as small defined lenticular shallow ulcers. The papules present almost the same characters as elsewhere, viz., small projecting oval or elliptical disks from the size of a lentil to that of a 20-centime piece; smooth on the surface, opaline or white, sometimes isolated, sometimes agglomerated, and may be situated on any part of the cervix. The ulcerating syphilides are often confounded with the ulcerations of metritis. The syphilitic ulcerations are shallow, are seated near the os, especially towards the centre, and have a smooth non-granular surface. These syphilides are indolent, and pass unnoticed by their bearer, the physician only discovering them when he looks specially for them. They do not usually give rise to metritis,

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though this is a very common complaint in syphilitic women. M. Martineau and his pupil M. Fourcault have described under the name of "*exulcerative hypertrophy of the cervix*" a lesion of the uterus which, according to them, appears during the evolution of secondary manifestations elsewhere. As M. Martineau has never met with this, he thinks it must be very rare, if even it ever exists.

Diagnosis.—This is sometimes difficult. The erosions due to syphilis are lenticular, single or multiple, coppery red, contrasting sharply with the surrounding mucous membrane, exist independently of vaginitis, and may be situated on any part of the cervix. The erosions due to vaginitis, on the contrary, have a very bright red colour, are voluminous, bleed easily, are irregular, are often seated at the base of the cervix where it joins the vagina, and extend often over the whole of one portion of the cervix. There are, moreover, the physical and functional signs of vaginitis. The lesions caused by metritis exist generally on both lips around the os; they are granular; they appear at first as projecting inflamed follicles with a whitish apex, and afterwards become characteristic erosions. Uterine syphilides, from their opaline tint, might easily be confounded with the diphtheroid chancre of the cervix, described by M. Bernutz. This, however, is a large superficial ulceration of the size of a franc piece or even larger, covered by a grayish false membrane; it is non-infecting, auto-inoculable, and unaccompanied by other signs of syphilis. Secondary syphilides of the cervix may also be confounded with herpes and eczema. An attentive examination will, however, discover in these latter affections, vesicles in groups in the case of eczema, or isolated in herpes, and also the small characteristic "collarette" will be seen at the circumference of the vesicles which have burst.

The *Prognosis* is very favourable. The lesions disappear with or without treatment. They are of importance, however, because they are a frequent cause of contagion, and are often overlooked, or mistaken for some other affection.—*London Med. Record*, August 15, 1880.

Total Extirpation of the Uterus from the Vagina.

KALTENBACH reports (*Centralblatt für Gynakologie*, No. 11, 1880) the case of a lady, aged 57, who had ceased to menstruate for five years, and had suffered from uterine prolapse for twenty-four years. All sorts of means adopted to restrain the prolapse had failed. In February of the present year she applied to Dr. Kaltenbach for the relief of urinary and other persistent trouble occasioned by the persistent prolapse. The uterus, vagina, and bladder were completely external. The sound passed five inches into the uterus. The anterior and a portion of the posterior lip were occupied by well-defined, copiously secreting ulcerated surface. The patient readily agreed to the proposition of an operation for radical cure. The original intention was to remove the ulcerated cervix along with its vaginal attachment. For this purpose a ligature was passed on each side so as to include the uterine arteries, and a portion of the neck about 2–2½ inches long was dissected out. In executing this manœuvre, however, the operator went too far, and opened into the peritoneum high up posteriorly. This accident suggested to him the total extirpation of the uterus. He accordingly passed two fingers through the rent and pulled the uterus down through the peritoneal opening without trouble. The uterus now hung isolated, attached only laterally by the somewhat twisted broad ligaments, and anteriorly to the bladder by the peritoneal reflection. The two ligaments were now ligatured, each in three portions, and inside the ligature the uterus was separated by a stroke of the knife. The plica vesico-uterina was seized by small forceps on both sides and cut through in front of these. Although the cords in the broad ligaments were very firmly

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tied, the middle ligature on the right side was seen to be defective. The corresponding part of the broad ligament became retracted, and there resulted considerable hemorrhage. By opening out the forceps fixed in the peritoneal wound edge, the bleeding part was easily exposed and definitely secured. Care was now taken, by introduction of small pieces of sponge fixed in holders, to make sure that no blood had entered the peritoneal cavity. The peritoneal wound was now closed up by six silken sutures, left long, and which at the same time fastened the ligatured portions of the broad ligaments in an extra-peritoneal position. In order to hasten the arrest of hemorrhage the lateral portions of the vagina were brought together with deep sutures, leaving only the central part of its lumen open. The inverted vagina, only now about one-third its original length, was covered with thymol wool and kept in position by a T-bandage. The operation was completely successful. The ligatured portion of the broad ligaments and a portion of the vaginal wound sloughed off. The prolapsed vagina became spontaneously replaced on the fourteenth day. After four weeks the opening in the vagina was completely closed by a smooth cicatrix. After the woman began to walk about the vagina again prolapsed. This inversion was, however, on the 20th March, cured by a kolpo-perineoraphe, which was executed at a single sitting. The author proceeds to suggest that this operation may ultimately find wider applications, so as to replace other more serious measures suggested for the cure of severe prolapse, complicated or uncomplicated. The advantage which he claims for the operation are the elevated situation of the opening into Douglas's space, the shutting up the peritoneal wound by means of suture, and the retention externally of the ligatured stumps of the broad ligaments. By the former arrangement the danger of opening the bladder or including the ureters in the ligatures are obviated. By the second arrangement it is possible to apply antiseptic measures to the extra-peritoneal wound; and by the third a free exit is allowed for the ligatures and any necrobiotic structures that are separated from the vaginal wound while it is healing.—*Edinburgh Med. Journal*, Aug. 1880.

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A Contribution to the Operative and After-treatment of Amputation of the Supravaginal Uterus in Fibroma.

This is the title of a paper by Dr. DORFF, Assistant-physician to the Gynæcolcgical Clinique in Freiburg, contributed to the *Central. für Gynakologie*, No. 12, 1880. It gives an account of eight cases in succession in which, by Hegar or by Kaltenbach, the uterus had been removed on account of fibroid tumors, all of which were successful, and all had been treated since August, 1879. The author objects to Pean's extra-peritoneal method as hitherto practised, on two grounds: first, that it is usually not, or at least not completely, extra-peritoneal. Only when the cervix is very mobile or very long does it permit of being so far drawn out as that the ligatures lie in front of the abdominal wall. In other cases they lie between the edges of the abdominal incision, and even in the peritoneal cavity, beneath the serous membrane. The second objection to the Pean method is the usually rapid onset of decomposition in the stump, and the great difficulty of keeping it antiseptic. To avoid the first difficulty Hegar stitches the peritoneum close to the stump below the ligatured point, so that the stump comes to project free from the bottom of a short conical or funnel-shaped cavity, the sides of which are formed by the thickness of the abdominal wall, and communication with the peritoneal cavity is completely shut off. To avoid sepsis in the stump, Hegar, partly by experiment on animals, partly by observation of operation cases, has arrived at the result that the stump can only be kept securely aseptic by dryness and keeping away of every kind of moisture. This end is effected in these opera-

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tions, first, by the most careful arrest of bleeding in the abdominal incision; secondly, the stump itself, on its cut surface and on its peripheral aspect, is cauterized as deeply as possible with Paquelin's cautery. Then the edge of the abdominal incision on the lateral walls of the funnel-shaped cavity is painted over with a 10 per cent. solution of chloride of zinc, the excess of solution being carefully dried up, immediately after the painting, with small balls of cotton-wool. The bottom of the funnel is avoided in this process, and a weaker solution employed for it. Small rolls of absorbent wool, which have been steeped in a weak chloride of zinc solution (1–2 per cent.) and then dried, are pushed between the stump and the edge of the wound, and the cavity thus carefully filled. The rest of the dressing must be so arranged that one may examine the stump and surroundings at any time without disturbing the dressing. If the rolls of cotton-wool are moistened with blood or wound fluid, we may be sure that decomposition is sitting in rapidly. The unpleasantness in this treatment is the sloughing off of the edges of the abdominal wound and its surroundings. This slough begins to come away from the 6th to the 7th day. Hegar and Kaltenbach have not seen any bad results from it. After the 5th or 6th day the chief dangers are over. These operators do not now employ Pean's ligature, but the elastic ligatures recommended by Kleeberg in Odessa for fibroma operations. A short account of the eight cases is then given.—*Edinburgh Med. Journal*, Aug. 1880.

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Diastases in the Bones of the Lower Extremities of the Fœtus, produced by the Accoucheur.

In the *Edinburgh Medical Journal*, for June, Professor SIMPSON has an article on this subject. In a case of turning for placenta prævia, the child being dead, he had an opportunity of making a dissection of one leg in which the only external appearances of injury were a slight abrasion over the internal malleolus and an undue mobility of the ankle-joint, as if some of the ligaments had been torn through. "Yet at three different points fractures were found on dissection. They were all fractures of the kind known to surgeons as 'diastases'—the shaft of the bone, that is to say, had become detached from the epiphyses. The seats of the diastases in the right leg are, 1st, the upper end of the femur below the trochanters; 2nd, the lower end of the tibia; and 3d, the lower end of the fibula. There has also been some separation of the epiphysis of the lower end of the femur, but the upper ends of the tibia and fibula are quite firm. In the left leg the epiphysis of the lower end of the tibia is loosened, but the epiphyses at both ends of the femur are firm." Dr. Simpson was led to make this examination from reflecting on a case which he has already published of a similar kind, except that the child was born alive. The left leg was found on the day after birth to be greatly swollen, with abrasions of the skin above the malleoli, and the limb hung stiffly from the pelvis. At that time he believed there was no injury to the bone or joint, but some laceration of the muscles and vessels. He is now inclined to think there may have been some fracture similar to that referred to. He would recommend in every case of turning, an examination of the limbs of the child, especially if there had been considerable traction exercised. If there be complete separation between apophysis and diaphysis, and the periosteum lacerated in the entire circumference of the bone, the hiatus will be easily traceable and crepitation may be felt. When there is simply loosening of the epiphysis the diagnosis will be more difficult as crepitation may not be perceptible. In the latter case nothing will be required beyond seeing that the limb is kept as much as possible at rest, but should the periosteum be lacerated, it will be necessary to bandage the limb to keep the separated portions of bone in apposition.—*Glasgow Med. Journal*, Sept. 1880.

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MEDICAL NEWS.

Colour-Blindness as a Practical Question.

Colour-blindness is no longer merely a scientific curiosity, but has become one of the practical questions of the day. Its discussion, instead of being confined to philosophic treatises and occasional articles in medical journals, has been taken up by medical societies, legislatures, corporations, and even political meetings, and the daily newspapers frequently give it a place in their columns.

Whatever may be thought of the merits of this question, or of what should be done in reference to it, there can be no doubt that its importance is at last recognized, and that it is receiving that thorough "ventilation" which is pretty sure to be followed by favourable action when the rights and interests of the public are concerned. This is due to the determined and persistent efforts of a few earnest men, such as Holmgren, Donders, Favre, and others abroad, and Dr. Jeffries in this country. The most rigid conservative or the most persistent obstructive will hardly now claim that some means should not be taken to protect the travelling public against the dangers that may arise from colour-blindness in those to whose care their lives are entrusted.

Everybody knows that the use of red and green signals is universal, both on land and sea, and that, particularly at night, the prompt and correct interpretation of these signals is the only security against collisions and other accidents; and it is now an established fact—established by observations at least as extensive, reliable, and positive as those upon which most of the facts by which we regulate the conduct of our lives are based—that about four per cent. of our male population are colour-blind; and colour-blindness is also a frequent symptom of various diseases of the optic nerve. It is too plain for argument that we have here to deal with a real danger, and not with a mere whim of scientific enthusiasts. Another danger, scarcely less important, is that arising from deficient acuteness of vision resulting from errors of refraction or diseases of the eyes.

It is of interest to know what is being done with this practical question. Government regulations have been established in nearly all European countries. The English government has not yet passed any law upon the subject, but some of the most important roads have instituted examinations on their own account. The army, navy, and marine hospital departments of our own government have each taken some action in the matter, though no uniform and definite standard of requirements has been established. An order of the Secretary of War requires that all accepted recruits shall be examined

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for colour-blindness by Holmgren's tests, and any defect observed noted on the descriptive list of the soldier. Such defect is not considered a cause for rejection, but disqualifies for service in the signal corps. An order of Surgeon-General Wales directs a similar examination, by medical officers of ships and stations, of all persons in the navy. In the merchant marine the government enforces the examination of pilots only. The Treasury Department has ordered that all persons applying for an original license, or for a renewal of license, as pilots on steam vessels shall be tested for colour-blindness. Every applicant for original license must present a certificate from a surgeon of the marine-hospital service, but pilots employed at points remote from marine hospital stations may be accepted on the certificate of any respectable physician of their neighbourhood. As this neighbourhood is likely to be a fisherman's village, the requirement is not an exacting one. Visual examination is not compulsory with any other class of seamen. Marine-hospital surgeons are required to examine, free of expense, any seamen who may be presented to them; but their labours have not been materially increased in consequence.

It will be noticed that, while our government has taken some important steps in the right direction, there is still a want of concurrence between the different departments, which have acted separately and partially, without any common plan or any fixed standard of requirements as to the necessary degree of visual acuteness and colour perception. The necessity of concurrent action in a matter of so much importance is evident; not only between the different departments of our own government, but between different governments, as the seas are the common highways of all maritime nations, and their safe navigation is a question of international interest. A petition in favour of such action, signed by Dr. Jeffries, and a number of ophthalmic surgeons and prominent scientific men, was presented to the last Congress. It was referred to the Naval Committee, who reported in favour of the appointment of officers of the diplomatic and consular service, and of the navy as commissioners, "to attend and represent the United States in any international congress held to consider and act upon said subject." A bill to that effect will be brought up at the next session of Congress.

At the instance of Mr. Bowman, the following resolutions have just been passed by the ophthalmological section of the British Medical Association, and forwarded to the British government and to the Milan Congress:—

"1st. That it is most desirable to establish international standard tests of visual acuteness and colour perception by means of an international commission, to which the several governments should be invited to send delegates.

"2d. That in all countries, persons upon whom may devolve the charge of life, by sea and land, where signalling is employed, with or without the use of colours, should be required to submit themselves to such standard tests of their sight, both before being admitted to their several services and also at stated subsequent intervals.

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"3d. That an important part of the duty of such an international commission should be to devise some common system of signalling, especially for sea-going ships and for all coastwise; and that the standard tests should be decided on with special reference to such common system of signalling."

So much for the prospect of national and international action. The only one of our State governments that has taken any steps in the matter is Connecticut. She is the pioneer, and on her ground this new battle of civilization is just now being fought. An act was passed last March directing the State Board of Health "to prepare rules and regulations for the examination and re-examination of railroad employés in regard to colour-blindness and visual power;" and to recommend annually to the Governor, for appointment, two or more medical experts to make these examinations. Every railroad in the State is required to cause its employés to be examined before the 1st of October, 1880, and is rendered liable to a fine of not less than $200 or more than $1000 for employing any one after that date who does not hold a certificate of freedom from colour-blindness and possession of normal vision.

The Board of Health, in whose hands the matter is thus placed, have adopted substantially the standard of requirements agreed upon by the International Medical Congress at Amsterdam in 1879. Railroad employés are divided into two classes. Engineers, firemen, and brakemen form the first, and all others are included in the second. A certificate for the first class requires—1st. Healthy eyes and eyelids, without habitual congestion or inflammation. 2d. Unobstructed visual field. 3d. Normal visual acuteness. 4th. Freedom from colour-blindness. 5th. Entire absence of cataract or other progressive disease of the eyes.

For the second class—1st. Healthy eyes and eyelids, without habitual congestion or inflammation. 2d. Unobstructed visual field. 3d. Visual acuteness at least equal to three-fifths without glasses, and normal with glasses in one eye; and at least one-half in the other with glasses. 4th. Freedom from colour-blindness in one eye; colour perception at least equal to three-fourths in the other eye.

These requirements may be modified by the board in the case of old employés who have held their positions for five or more years. There is no provision for re-examinations at stated intervals, but re-examination is required—1st. After any disease of the eyes. 2d. After injuries affecting the head or eyes. 3d. After any disease or trouble of the brain, and after long-continued illness, as typhoid fever. 4th. After mistakes or acts which call in question the visual powers; also whenever directed by the Board of Health.

There is certainly nothing monstrous or unreasonable in these provisions. Few of us would care to trust our lives on a stormy night to an engineer who could not distinguish *promptly* between red and green; and fair average sight is all that is required by the tests for acuteness of vision. But colour-blind trainmen are not blind to their own interests, and before

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half a dozen cases had been detected they stirred up their friends to hold mass meetings, circulate petitions, and employ counsel. Unfortunately, a Presidential election is near at hand, and among these 3000 Connecticut railroad men there is "a possible" 120 of colour-blind voters, to say nothing of those whose vision may be defective from other causes. Therefore "the two *great* political parties" have rushed to the rescue, and, vying with each other in their patriotic efforts to oppose the law, have raised a "tempest in a teapot," which would be funny if it were not rather degrading. They clamor for "practical tests by practical men." This means the waving of flags and lanterns, which has been proved to be *practically* almost worthless. It has been shown, over and over again, that a colour-blind person may make very intelligent and, under *favourable circumstances*, generally correct guesses at the colour of these flags and lanterns, particularly if his eye has been trained to observing them for years. He does this by means of the difference in the *intensity* of light, his perception of which has been unusually developed in consequence of the absence of the colour sense—just as the hearing of the blind becomes more acute. Such guessing, however, is not a safe guide where life or death depends upon the correctness of the guess, especially as the intensity of a light varies with atmospheric and other conditions, and its perception is affected by the varying states of the eyes and of the general health. This fact seems to have been had in view by the committee of protesting engineers when they stipulated that the tests should be made "under fair conditions of atmosphere." This makes things easy for the engineers, but is hard on people who have to travel of foggy or sleety nights.

The "pressure" seems to have been too much for the Connecticut Board of Health, who have halted their doctors in the midst of their work and directed them to make no more examinations until further orders. Policy would seem to dictate that these orders should not be given until after the election, when sober second thought may give a chance for honest conviction or harmless indifference.

At all events, Dr. Jeffries has succeeded in getting the thin end of his wedge pretty well in place; and, while he is perseveringly hammering away at it, he should have the aid of all who can help him drive it home.

Proceedings of the Fifth Annual Meeting of the American Gynæcological Society, Cincinnati, Sept. 1st, 2d, and 3d, 1880.

(Specially reported for the MEDICAL NEWS AND ABSTRACT.)

The fifth annual session of the American Gynæcological Society was held at Cincinnati, September 1st, 2d, and 3d, 1880. The Society was called to order by its President, Dr. J. Marion Sims, and upon the Secretary, Dr. Chadwick, calling the roll, about twenty (forty per cent.) of its Fellows were found to be present.

Dr. THAD. A. REAMY, of Cincinnati, a resident Fellow, delivered a brief and eloquent address of welcome, in which he congratulated the Society upon the

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high position in medical literature already occupied by the published Transactions of the body, and expressed the belief that they would continue to improve with each successive meeting.

The Proper Field for Battey's Operation was the subject of the first paper on the programme. Dr. BATTEY, the originator of the operation, did not present his paper in full, but gave the principal points which he intended to make in that publication. Among the different classes of cases chosen for it he mentioned cases of menstro-mania or ovarian mania, in which there could be no question as to its advisability. The mind in many of these cases is dethroned by reason of violent perturbations dependent upon stoppage of menstruation; the same accidents sometimes follow while menstruation is going on, but its functions are deranged, and its process accompanied by very severe pain. After removal of the ovaries in such cases profound changes in their structure are found, which are incurable by any internal administration of medicines. Cases of ovarian epilepsy form another rather numerous class of cases indicating the operation. The author here hoped that operators would exercise great caution in distinguishing cases of uterine from those of ovarian epilepsy. Cases of absence of the uterus, with more or less irregular ovulation, would often produce in the system such violent nervousness and local congestion, unrelieved by nature's assistance in the menstrual discharge, that he would not hesitate to remove the ovaries. He gave an example of another class of cases in which there was complete occlusion of the metro-vaginal canal, in which removal of the ovaries was very gratifying. Another class, which he acknowledged to be a very inexact and unscientific classification, includes cases of pernicious amenorrhœa in which all other plans of treatment fail. Some cases of interstitial fibroid tumours of the uterus, not amenable to the ordinary resources of our art, constantly subject the patient to the danger of death by exhaustive hemorrhages. The climacteric follows the removal of the ovaries, and the tumour gradually diminishes in size. Such has been the experience of Hegar, Lawson Tait, and a number of physicians of our own country. In certain incurable flexions of the uterus the extirpation of the ovary is justifiable. In conclusion, Dr. Battey strongly advised the removal of the ovary in every case in which an obstetrician is compelled to resort to the Cæsarean section on account of a contracted or deformed pelvis. He believed it criminal to subject a woman, upon whom abdominal section was once performed, to a repetition of a similar danger.

Anterior Displacement of the Ovary.—Dr. GEO. J. ENGELMANN read an account of two cases of anterior displacement of the ovary simulating inguinal hernia. This is a rare form of malposition, much rarer, indeed, than the lateral displacement referred to by Dr. P. F. Mundé in the last volume of the Society's Transactions. One of the two cases referred to occurred in a young woman of twenty-four, and had existed for seven years. She dated the beginning of her trouble from a fall. When seen by the author, after having been cared for by a number of physicians, mental delusion was showing itself in the form of melancholia. The second case was a woman of forty-six, whose nervous system was hopelessly disturbed. At no time except during the menstrual discharge did the lump appear. In the one case the ovary was removed. It was not enlarged. The patient recovered without a bad symptom. The removal of this one ovary brought on the menopause. She menstruated very slightly twice after its extirpation, but never after. Her melancholia disappeared, and she recovered completely. In his second case, instead of producing the menopause artificially, it was left to nature because of her age. He did not believe that a melancholia which had existed twenty-six years would be relieved by either menopause or the removal of the ovaries.

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In the discussion which followed the reading of these two papers, Dr. FORDYCE BARKER stated that he had met with but three cases of anterior displacement of the ovary. He could not believe it possible for such an accident to be caused by a fall. He was inclined to consider the displacement congenital, but thought the fall might have aggravated the congestion and thus induced the nervous symptoms. His own treatment had been palliative, and his best results had been attained by the administration of hyoscyamia during the menstrual periods.

Dr. BYFORD stated that while he believed Battey's operation would be found a very useful measure in some cases, we would often be disappointed in its results. In some remarks upon the influence of removal of the ovaries upon interstitial fibroids of the uterus he referred to one case in which the fundus extended two inches above the umbilicus, and in which both ovaries were removed. As nearly as the speaker could recollect, this case had been reported by Dr. Trenholme, of Canada, as cured by the operation. That patient had been under the speaker's care for the past year, and her condition is about as miserable as it is possible to be. Of course, there is now no menstruation, but irregular congestions and hemorrhages occur in consequence of the least exercise or excitement. These sometimes reduce her almost to the point of death. The tumour now reaches fully as far above the umbilicus as it was described before the operation. Her condition now, therefore, although somewhat changed, is not improved.

Dr. SIMS remarked that Battey's operation is now quite frequently performed by German surgeons; in England it has advanced quite rapidly within the past twelve months. Lawson Tait has been seized with a mania for its performance, having had twenty-eight cases in less than one year; he reports excellent results, but the accounts of these cases were, in the speaker's estimation, meagre and unsatisfactory. Sims had himself recently operated upon four cases. Two were now doing well; one died from the effects of bromide of ethyl, and the fourth was only partially benefited. He predicted a grand future for the operation after we have better learned how to discriminate the proper cases.

In concluding the discussion Dr. BATTEY said that in every instance in which he had removed both ovaries, the menopause had been established. If either be partially left, menstruation will continue to some extent. During menstruation we expect an increased flow of blood to the reproductive organs, hence an increased growth of any tumour present. By stopping this periodical congestion, we hope for and will often succeed in producing a gradual atrophy of the tumour. He expressed great fears that the operation might fall into disrepute through too great license in the selection of cases.

Ovariotomy Complicated with Pregnancy.—Dr. WILSON read a paper in which he discussed the question of what should be done with a large ovarian tumour existing with pregnancy. He objected to tapping on account of the necessity for its frequent repetition, and because each tapping is followed by new and strong adhesions to the adjacent organs. His statistics showed twenty-four recoveries out of twenty-nine operations undertaken under antiseptics, independent of any reference to the existence of pregnancy.

Dr. DUNLAP was of the opinion that ovariotomy would be likely to induce labour, and labour occurring immediately after such an operation, would be likely to result fatally. He advised, therefore, that an abortion be induced, and that the ovariotomy be postponed until after recovery from the abortion.

Dr. CHADWICK advocated the policy of non-interference whenever the ovarian tumour could be pushed and kept above the brim of the pelvis. He considered the dangers of non-interference much magnified, and cited three cases in which this let-alone policy had resulted very favourably.

Dr. BYFORD had been in the habit of frequently tapping the cyst in these

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patients, but said that the favourable statistics presented by Dr. Wilson went very far toward influencing him in favour of the removal of the ovarian tumour during pregnancy. He was utterly opposed to the mischievous practice of abortion in these cases. He mentioned one case in which an ovarian tumour of considerable size existed throughout two pregnancies without rupture and was afterwards successfully operated upon.

Dr. SIMS, in the course of some remarks which agreed in the main with those of Dr. Wilson, referred to one case in which rupture of an ovarian cyst occurred during labour and the woman recovered. The same accident, followed by the same happy result, happened also in her next confinement. He felt satisfied that when the tumour becomes as large as a fœtal head, the better plan, in the majority of cases, will be to remove it.

Uterine Massage as a Means of Treating Certain Forms of Enlargement.—Dr. A. REEVES JACKSON'S paper on this subject opened with an account of the causes producing these enlargements; he spoke of the failure of most of the means hitherto employed in reducing these enlargements, and of the good results obtained from massage. Three kinds of massage are applicable in uterine diseases; abdominal, abdomino-vaginal, and abdomino-rectal. The first of these is the most satisfactory, but is applicable only when the fundus uteri extends above the pubes. The last variety is difficult of application, quite painful, and therefore of limited applicability.

Dr. REAMY had had no experience in the employment of uterine massage, but several points regarding it were far from clear to his mind. As used by Weir Mitchell, massage is employed to increase the strength and size of the muscular tissue in the limbs and elsewhere, not to reduce it. It may possibly be that massage, as employed by Dr. Jackson, promotes contraction of the muscular fibres in the engorged uterus. The length of time required, and the difficulty of obtaining the assistance of a competent person to carry it out, would, the speaker thought, be serious obstacles to the general adoption of this plan of treatment. Previous to its use it is extremely important that a correct diagnosis be made, and that pelvic cellulitis be excluded.

Dr. CAMPBELL believed that the enfeebled circulation unattended with inflammatory conditions, for which Weir Mitchell used massage, would in an organ such as the uterus, leave the organ engorged with blood, therefore enlarged. The primal causes of these two states were the same. In each case, then, massage would stimulate the circulation and restore the natural condition and size of the organ.

Cataleptic Convulsions Cured by Trachelorraphy.—Dr. R. S. SUTTON'S contribution on this subject consisted in the narration of a case of lacerated cervix, in which the slightest contact with the point of laceration induced convulsions. Emmet's operation was performed and a perfect cure was the result.

Extirpation of an Encephaloid Kidney.—Dr. WM. H. BYFORD reported the removal of an encephaloid kidney weighing four and a half pounds. The principal difficulty in the case was in the establishment of a diagnosis.

In the discussion which followed this report, Dr. CHADWICK mentioned, as a point of possible value in diagnosis, the displacement forward of the colon in any growth involving the kidney.

Secondary Puerperal Hemorrhage.—Dr. PARVIN'S paper on this subject was a full discussion of the causes, symptoms, and treatment of this accident. He included under this head hemorrhage occurring from six hours to thirty days after parturition. Amongst the most potent of its causes, he included mental emotions, especially grief, and gave several illustrations.

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The discussion unfortunately was not confined to *secondary*, but was largely devoted to immediate puerperal hemorrhage.

Dr. CAMPBELL, in some extended remarks, expressed the utmost reliance in iodine. When called to a serious case, he injects a solution composed of one part tincture of iodine to four parts of water. This, he claims, leaves no clot, produces no pain, and effects instantaneous contraction.

Dr. WILSON followed with some interesting remarks in which he advocated the use of the hand as a curette. The interior of the uterus should be freely scraped by the finger-nails.

Dr. BARKER expressed surprise that the author had not referred to malaria as a cause of these hemorrhages. He believed it to be a very potent cause. Iodine had not in his hands proved so successful as with a previous speaker. Hot water injections would often check an otherwise uncontrollable bleeding. He had often used iron but never with fatal results. On account of the character of the clot produced by it he would not again employ it except as a last resort.

Value of Quinia in Gynecic and Obstetric Practice.—Dr. H. F. CAMPBELL, in a paper on this subject, devoted himself to a refutation of the charge so frequently made against quinia, that its continued administration is liable to induce abortion. In his country—a very malarious one—it often becomes necessary to administer this agent in very considerable doses throughout the entire period of gestation, and the speaker has yet to learn of the first case in which it has exerted any of the ill effects attributed to it; indeed, he believed that its timely administration saved many a fœtus.

Dr. FORDYCE BARKER said that the influence of quinia in quickening and rendering more efficient labour pains, was what doubtless led to the incorrect belief in its harmfulness during gestation. He said that no healthy uterus will throw off a healthy fœtus. He had no doubt that the malarial poison tends to produce abortion, and agreed with the essayist in the belief that quinia often prevented it.

Drs. REEVE and PARVIN agreed perfectly with the statements made by the author of the paper regarding the innocuousness of quinia during pregnancy.

Dr. REAMY, of Cincinnati, said that quinia is not, in the true sense of the word, an oxytocic, yet in certain conditions and in a certain class of subjects—the leuco-phlegmatic—it will promote delivery; the circumstances under which it will have this effect are during the latter part of the first stage when the pains are frequent and inefficient, and the dilatation slow. Under such conditions, three ten-grain doses of quinia given at intervals of one-half hour, will slow the heart, reduce the fever, if present, cool the skin, lessen the frequency, and greatly increase the power of uterine contractions, rapidly promoting dilatation, and lessening the suffering of the patient. In cases not malarial he had frequently arrested a threatened abortion by moderate doses of ergot. In proof of this statement he gave a full comparison of the physiological effects of ergot and of such large doses of quinia as would be required under these circumstances. Those who will carefully select their cases will realize the result; but those who employ it as a promoter of parturient pains in all cases of inertia will be disappointed.

The Instinctive (or Natural) and Physiological Position of Woman in Labour.—Dr. GEO. J. ENGELMANN, of St. Louis, read only a portion of his paper, which is an exhaustive discussion of the subject of the position assumed by woman in labour. The essay showed very extensive research, and the author illustrated his descriptions of the peculiar postures of women, civilized and uncivilized, in ancient and modern times, by the presentation of a large number of well-executed drawings. As the result of his study of this subject, the author stated that the semi-recumbent position is the one most generally assumed during the most

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agonizing pains, and this is the one he would accordingly advocate. His conclusions were, therefore, that in the early stages the woman should be allowed to follow her own instincts as to position, and even in the later stages the same may usually be safely done with very slight restrictions. The semi-recumbent position appears to afford the greatest relief with the best effect, as it permits a free play of all the parts.

Dr. J. C. REEVE believed that whatever position a woman might assume early in labour, when the severe pains came on she would, if left to her own inclinations, assume the position on the back, with head and shoulders slightly elevated. This is the best position, with one exception—that on her knees—which in civilized life the woman is not likely to often assume. This, however, would bring the axis of the fœtus and uterus still more nearly in line with the pelvic axis.

Dr. CAMPBELL cited a number of instances which convinced him that the natural position of woman in labour was the squatting position.

Three Fatal Cases of Rupture of the Uterus with Laparotomy.—Dr. W. T. HOWARD, of Baltimore, read a report of three cases in which this accident had occurred, and in which he had performed laparotomy. These three cases all proved fatal. In the future he would prefer to extirpate the uterus, as by this means a smaller surface would be left exposed to bleed and ulcerate. Statistics prove that extirpation of the uterus in such cases is not so frequently followed by death as is the simpler operation of Cæsarean section and removal of the child.

Drs. WILSON and PARVIN agreed that Dr. Howard had indicated the correct rule of action in these cases. It might not always be necessary to operate if the rent be low down, involving the vagina; but whenever it occurs high up, the removal of the uterus is certainly the only proper procedure.

The Hot Rectal Douche.—Dr. J. R. CHADWICK, of Boston, stated at the outset that the chief purpose for which this plan of treatment had been heretofore employed had been for the removal of impacted fecal masses. He cited a number of cases in which its field of usefulness had in his opinion been extended. Several of these were cases of diarrhœa dependent upon disease of the rectum and large intestine. A few applications of the hot rectal douche cured what a long-continued course of internal medication had wholly failed to influence. Previous to calling attention to the next class of cases in which it is useful, he demonstrated, by means of a number of Braune's plates, the very limited extent of peritoneal surface which it would be possible to influence by vaginal injections, as compared with the exceedingly large extent open to the influence of hot water introduced into the bowel. By this means the body of the uterus and the ovaries, as well as all the pelvic tissues, could have heat applied to them with only the intervention of the thin intestinal wall. Several cases were mentioned of burning pain in the ovarian region, and of other conditions following pelvic inflammation, so relieved. It is applicable in all cases except acute inflammatory diseases, and is, in the opinion of the author, incalculably superior to all other methods of applying warmth.

Dr. CAMPBELL, in the course of some remarks in agreement with the essayist, expressed the belief that the hot water passed up into the small intestine and formed a sort of cushion about the pelvic organs. Being interrogated by Dr. Reamy as to its passing the ileo-cæcal valve, he said he had no doubt of the possibility of such an occurrence.

Dr. REAMY suggested that the water would lose its high temperature before it reached a very high point of the intestines. He contended that it was impossible, with the power exerted by the douche or ordinary syringe, to force water past the ileo-cæcal valve. The fact that all the water so injected does not pass

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off is no proof that it is carried into the small intestine, because a large amount of it is absorbed and enters the general system. It can never pass the valve in a mass.

Dr. CHADWICK, in concluding the discussion, said, in reply to a question of Dr. Howard, that he had in two or three instances heard patients complain of hæmorrhoids; but these patients had probably suffered from them before. The use of the douche, by preventing the accumulation of feces, would obviate all danger of hæmorrhoids. He generally suspended the use of the douche during menstruation, not knowing what might be its effects. He failed to agree with Dr. Reamy that the same results could be obtained from poultices applied externally, because, as before shown, the application could never be so closely made. He also differed with Dr. Reamy regarding retrostalsis. He said that about one year ago he performed an ovariotomy after freely purging his patient. During five days subsequent to the operation he permitted no food to be given by the mouth, but supported her by enemata of beef-tea. Yet on the fifth day the patient vomited beef-tea. He believed that this beef-tea had passed the ileo-cæcal valve and had been carried upward by retrostalsis.

Ulceration of the Cervix Uteri.—Dr. THAD. A. REAMY, of Cincinnati, read his paper on the above subject only by abstract. The paper is founded on an examination of eight thousand women supposed to be suffering from uterine disease. By the ulcerative process and by ulcer the author means what is expressed by Paget and Billroth, and cited the following definitions:—

Ulcerative process usually the result of detachment of dead portions or molecules of inflamed tissue. . . . Substance removed, not absorbed, but ejected. . . . An ulcer usually begins by slough or detachment of dead tissue by removing layers of living tissue that surround it. (Paget.)

An ulcer is formed when by the above process the vascular and proper tissue (submucosa) is removed. (Paget.)

An ulcer is a wounded surface which shows no tendency to heal. (Billroth.)

Excluding syphilitic and cancerous ulceration, out of the total 8000 women examined, there were found but 19 cases of true ulceration.

A large number suffered from abrasions and erosions—so-called ulcers.

The widely-extended disagreement between physicians as to the prevalence of ulceration is attributable, not to ignorance of a gross character, but to a difference of opinion as to where abrasion or erosion stops and ulceration commences.

Close of the Session.—The hour for adjournment having arrived, several papers were read by title only. Dr. Sims then introduced his successor, the President elect, Dr. Byford, of Chicago, after which the society adjourned, to meet in New York on the third Wednesday in September, 1881.

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Change in School Terms.—The College of Physicians and Surgeons and Bellevue Hospital Medical College, in response to the unmistakable demand for improvement in the curriculum, have lengthened their winter course, so that, at the former school, it begins on the 1st of October and ends about the last of April, and at Bellevue it began September 15th, and will end about the middle of March. The preliminary fall course in both schools is now abolished.

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The Sanitary Protection Association of Newport, R. I.—This Society was founded in 1878, after the model of the Edinburgh Association established by Mr. Jenkin, and has for its objects (1) to provide its members, at moderate cost, with such advice and supervision as shall insure the proper sanitary condition of their own dwellings; (2) to enable members to procure practical advice, on moderate terms, as to the best means of remedying defects in houses of the poorer class in

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which they are interested; and (3) to aid in improving the sanitary condition of the city. The Association has just completed its second year, and is steadily increasing its good work and gaining ground in public estimation. During the past twelvemonth eighteen inspections were made, and in all, with but a single exception, very grave defects were discovered. The sum of one hundred dollars has been placed at the disposal of the Association, for the purpose of awarding prizes to the owners of dwellings, who shall, for the space of one year, keep their premises in the most perfect order and sanitary condition. Dr. H. R. Storer is the Corresponding Secretary, and Colonel George E. Waring, Jr., the Consulting Engineer of the Society.

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British Medical Association.—The forty-eighth annual meeting of the British Medical Association was held at Cambridge, August 10, 11, 12, and 13, under the Presidency of Prof. Humphrey. The Address in Medicine was delivered by Dr. Bradbury, that in Surgery by Mr. Timothy Holmes, and that in Physiology by Dr. Michael Foster. There were about eight hundred members present, and the meeting was considered in all respects a brilliant success. The subject of holding the annual meeting in 1881, was remitted to the consideration of the Council in consequence of the proposed International Medical Congress in August of next year.

At the annual dinner of the Association the President proposed the toast of "Our Guests" and dwelt upon the kindly relations existing between the profession of Great Britain and the profession on the Continent and in America, and coupled the toast with the names of Prof. Brown-Séquard and Prof. Gross. Prof. Gross in appropriate words responded to the toast. He warmly urged the cultivation of social intercourse between the two great nations represented by the association and by himself; and he assured his hearers of the sympathy of the profession in America.

—

Honorary Degrees Conferred at Cambridge.— In accordance with the announcement, the honorary degree of Doctor of Laws was conferred on the 11th of August, by the University of Cambridge, upon Dr. C. E. Brown-Séquard, of Paris; Dr. Donders, of Utrecht; Dr. S. D. Gross, of Philadelphia; Sir Wm. Jenner, Bart., Sir Wm. Gull, Bart., Sir George Burrows, Bart., Mr. Wm. Bowman, the Rev. S. Haughton, M.D., Mr. Joseph Lister, Dr. D. C. O'Connor, Mr. J. Simon, and Dr. Andrew Wood.

The Public Orator, Mr. Sandys, introduced each candidate to the Vice-Chancellor in a short Latin speech. Dr. Gross was introduced as follows:—

"Trans fluctus Atlanticos, trans Oceanum non iam ut antea 'dissociabilem;' patriæ nostræ ad portus nuper advectus est vir venerabilis quem inter fratres nostros Transatlanticos scientiæ Chirurgicæ quasi alterum Nestorem nominare ausim. Ergo libenter quasi fraterno amore hodie salutamus, civitatis bene ominati nominis civem, Chirurgiæ Professorem Philadelphiensem, Samuelem Gross."

The *Lancet*, in commenting on the honors of Cambridge says: "Brown-Séquard, Gross, and Donders could not be more gratified with the rare honour of receiving the honorary degree of LL.D. Cantabriensis, than the profession of Britain will be gratified to know that they have received it."

—

International Medical Congress, London, 1881.—From the official circular of the Congress, just received, we learn, in addition to the announcement already made (see *Medical News* for September, page 572), that the days of the meeting will extend from Wednesday the 3d, to Tuesday the 9th of August, both

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days included, and that a Reception of Welcome will take place on the evening of August 2.

The Executive Committee inform their "colleagues abroad that ladies will be invited to the social and ceremonial meetings of the Congress, but will not be admitted to its business meetings."

Dr. Risdon Bennett, President of the Royal College of Physicians of London, has been appointed Chairman of the Executive Committee, and Mr. Prescott Hewitt, Chairman of the Reception Committee.

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International Sanitary Conference.—The President has issued a call for an International Sanitary Conference to meet at Washington, D. C., on the first day of January, 1881, to which the several powers having jurisdiction of ports likely to be infected with yellow fever or cholera, have been invited to send delegates, properly authorized, "for the purpose of securing the adoption by the powers in question of an international system of notification as to the actual sanitary condition of ports and places under the jurisdiction of such powers, and of vessels sailing therefrom.

The specific propositions which will be submitted to the conference will include the following:—

A. The establishment of a reliable and satisfactory international system of notification as to the existence of contagious and infectious diseases, more especially cholera and yellow fever.

B. The establishment of a uniform and satisfactory system of bills of health, the statements in which shall be trustworthy as to the sanitary condition of the port of departure and as to the condition of the vessel at the time of sailing.

The discussion of these points would involve, among others, the following questions:—

I. Who should be the certifying officer or authority as to the sanitary condition of ports and places and of vessels?

II. How can the certifying authority obtain trustworthy information as to the actual sanitary condition of ports and places and as to the presence of contagious and infectious diseases?

III. When yellow fever or cholera exists at or in the vicinity of a port or place, what examination should be made of a vessel sailing therefrom to secure a trustworthy knowledge of her sanitary condition?

IV. To what extent, and under what conditions, should a clean bill of health be considered as affording satisfactory evidence that the vessel is free from danger of conveying infectious disease?

V. In what way can trustworthy information be obtained from ports or places in countries which have imperfect or unsafe quarantine and sanitary regulations, and which may be unwilling or unable to adhere to the proposed international system?

VI. Whether a schedule of graduated penalties could be fixed to be exacted from vessels for various offences arising under the proposed international system.

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Meeting of the Medical Society of Virginia.—This Society will meet in Danville on October 19th, at half-past seven P. M.

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Kentucky State Medical Society's Transactions.—At the last meeting of this Society, it was resolved to discontinue the publication of a volume of Transactions, simply publishing the minutes in pamphlet form. The papers read before the Society may be published by their authors in any regular medical journal. It is

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proposed to appropriate the money heretofore spent in publishing the Transactions towards the creation of a prize essay fund.

—

The Case of the late Miss Adelaide Neilson.—As the reports which have reached this country of the sudden illness and death of this distinguished *artiste* seemed to envelop the case in considerable mystery the following account of her illness and death, which appears in the *Lancet* (Aug. 28th), by Dr. W. E. JOHNSTON, of Paris, who has been her physician for the last five years, will be read with melancholy interest by her many admirers on this side of the Atlantic.

Dr. Johnston says "the disease from which she suffered principally was gastralgia—one of the forms of dyspepsia attended with neuralgia of the stomach, a form extremely fantastic in its coming and going, and in her case quite as dependent on moral causes as on errors of diet. The last fatal attack in the Bois de Boulogne was evidently one of her usual attacks of gastralgia, which might have been relieved then, as it often had been before, by a free use of morphine. The unfortunate lady sent her maid for me at seven o'clock, but to my great regret I was absent that evening on a visit to my family in the country, and did not hear of her illness till I heard of her death. At three o'clock in the morning, twelve hours from the commencement of the attack, during a most violent recurrence of the pain, she suddenly ceased to complain, went into a state of syncope, and died in the syncope. The post-mortem examination made the next day by Dr. Brouardel, Professor of Legal Medicine at the Medical School of Paris, and now one of the first authorities in Europe in legal medicine, disclosed the extraordinary fact, one of the rarest in the history of medicine, that in her writhing she had ruptured a varicose vein in the left Fallopian tube, and had died from internal hemorrhage. Two quarts and a half of blood were found in the peritoneal cavity, and the ruptured vein presented an orifice of from four to five millimetres in diameter."

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Literary Notes.—The Government Printing Office has just issued the first volume of the Index Catalogue of the Library of the Surgeon-General's Office. The attention of the readers of the *News* has been, from time to time, called to the magnitude of this work, which is practically an author and subject index of medical literature to date of publication. The first of the projected ten volumes contains 888 quarto pages, extends from A to Berlinski, and justifies the high anticipations that have been formed of its value. The work has been compiled under the supervision of Surgeon John S. Billings, to whose intelligent zeal and indomitable energy the Government is indebted for this noble contribution which it has made to the cause of medical science and of the healing art.

The September number of the *Popular Science Monthly* contains an interesting biographical sketch, with portrait, of Dr. Joseph Leidy, of the University of Pennsylvania, which will be read with the interest which always attaches to the history of one whose scientific labours have rendered his name known wherever natural history is cultivated.

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OBITUARY RECORD.—Died, at Vienna, on the 5th of August, aged 64, FERDINAND R. V. HEBRA.

Prof. Hebra was born at Brünn in 1816, and pursued his medical studies at Vienna where he graduated in 1841. He then became assistant to Skoda, and was induced by his illustrious teacher to devote himself to the study of dermatology. In 1842 he delivered his first private course of lectures. Shortly afterward, through the influence of Skoda, a section in the hospital was founded for skin diseases, at the head of which Hebra was placed. In 1848 Hebra was made Extraordinary Professor and his lectures were largely attended by students from

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all parts of the world. His scientific labours were numerous, the principal of them are thus described by Prof. Neumann, "although the existence of the itch mite was made known centuries ago, yet few practitioners were in a position to find and demontrate it prior to 1844, when Hebra exhibited the galleries formed by it in the penis, the buttocks, the umbilicus, and the bend of the elbow, explaining at the same time that the efflorescence produced was of a traumatic nature. Heretofore the view had prevailed that the papules, vesicles, and pustules were due to a diseased condition of the blood. Taught by his abundant experience, Hebra opposed the employment of stimulant substances to the skin, having arrived at the conviction that the relief they afforded was only temporary, while in scrofulous or cachectic subjects sometimes great mischief to the skin followed their use. The expectant treatment, which Hebra had studied under his teacher Skoda, he carried into the practice of skin diseases, and as a consequence of this principle the great bulk of the stores of medicinal applications were banished forever. In the treatment and etiological foundation of eczema, Hebra took a most prominent part, fixing its diagnosis upon new points of view, and establishing its treatment on a more certain basis. He proved the impossibility of the retrocession of diseases of the skin, and showed that the symptoms from which the idea of retrocession had arisen—the disappearance of the eruption on the occurrence of typhus or pneumonia, the paling of erysipelas, erythema, or scarlatina during the agony of death, and the absence of redness in the corpse—was really the result of anæmia of the skin. Hebra employed a classification of skin diseases, which, already designed by Rokitansky in its essential features, was found well adapted to clinical requirements. In 1842 he first re-introduced the banished mercurial treatment; not that he ever became an excessive mercurialist, his principle being to try again all remedies without prejudice. He employed as well the various other anti-syphilitic means, iodine, non-specific treatment, syphilization and vaccination of the syphilitic."

During ten years, Hebra edited the *Zeitschrift der Gesselschaft der Aerzte in Wein*, and in this he published several papers, as, for example, on the most important Diseases of the Hairy Scalp, his Classification of Skin Diseases, on Herpes Tonsurans and Norwegian Scabies, etc. Among his great works are his magnificent "Atlas der Hautkrankheiten," published by the Vienna Academy of Sciences, and his "Handbuch der specielle Pathologie und Therapie der Hautkrankheiten," translated by the New Sydenham Society.

Prof. Hebra's fame was recognized throughout the civilized world, and by his death the Vienna Medical School has sustained its greatest loss since the retirement of Rokitansky.

—— At Somerville, Mass., on August 29th, CHARLES THOMAS JACKSON, M.D., aged 75 years.

Dr. Jackson was born at Plymouth, June 21, 1805; he studied under Drs. James Jackson and Walter Channing, and graduated in medicine at Harvard University in 1829. After a course of study abroad, he settled in Boston in 1833, and devoted much of his time to chemistry, mineralogy, and geology. He is best known to the medical profession as the claimant to the discovery of surgical anæsthesia, and he received from the French Academy of Sciences the Monthyon prize of 2500 francs for the discovery of etherization.

To Readers and Correspondents.—The editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession. Local papers containing reports or news items should be marked.

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THE

MEDICAL NEWS AND ABSTRACT.

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(For List of Contents see pp. 703-4.)

CLINICS.

Clinical Lectures.

ON CIRRHOSIS OF THE LIVER.

A CLINICAL LECTURE DELIVERED AT THE HOSPITAL OF THE GOOD SAMARITAN, CINCINNATI.

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GENTLEMEN: We have, to-day, to discuss a disease without a parasite. We have had much to say hitherto about germs and parasites in connection with all cases of acute infectious disease. We have seen acute articular rheumatism, forms of Bright's disease, tuberculosis, and even that "type of acute inflammations," lobar pneumonia, fall into the line of the acute infections, so that now it would seem almost pertinent to ask: Is there any disease which is not due to the all-prevailing parasite?

Two centuries ago, it was scurvy which was the *fons et origo mali.* According to Eugalenus it was omnipresent. All children are born with it, Drawitz said; all diseases are complicated with it, said Mœllenbroeck or are produced by it, said Bonteroe. A century later, Hahnemann pronounced the psora, the itch, as the cause of every kind of chronic disease. Ours is the day of the parasite. I speak of it, however, in no spirit of levity. For the acquisitions of our day are not conceptions merely, not revelations of inspiration. They are discoveries of investigation, objective, and not subjective disclosures. Nevertheless, it is refreshing to have to study a disease with the pathogeny of which parasites or germs have nothing at all to do.

Our patient, as the history just read informs us, is a man of 42, a German by birth, and a brewer by occupation. He has been in the habit of drinking beer very freely every day, and not content with this, he has taken "schnapps" every morning besides. This has been his habit for years. About six months ago he began to feel dyspeptic. He had heartburn, pyrosis, occasional nausea, and gastric distress. He was constipated for the most part, but had now and then attacks of diarrhœa. For the relief of all these troubles, he always took "schnapps." Pretty soon he began to vomit, and now he vomits every day, just before breakfast, he

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says. Bacchus, as well as Neptune and Venus (or Lucina), demand matutinal offerings. He has had hæmorrhoids several times, but they have never bled, and are now not present at all. He does not remember to have ever had any kind of dropsy. He has lost in his illness, he says, forty pounds of flesh. Let us look at him as he shows himself to-day.

He is a man of large, powerful frame, but he is evidently reduced in weight and strength. He seems listless and dejected. His skin has a sallow hue and is dry and scaly. The conjunctivæ are as yellow as in common jaundice. So far as we can see, there is nothing wrong in the brain, the lungs, or the heart. The fault lies below the diaphragm. The liver is evidently reduced in size. You catch the tympanitic sound of the distended colon well up under the ribs, where we should have hepatic dullness. I cannot feel the edge of the liver under the ribs even when following it up on forced expiration. At the same time the pulmonic resonance is clear down to and below the nipple. In other words, the liver is not pushed up from below, it is simply reduced in size. But the spleen is very large. It is palpable below the ribs, and percussion shows horizontal dulness from the sternum to the spinal column. To discover this anomaly, we have the patient lie upon his right side, with the left arm extended above his head. For the spleen enlarges sideways first, as much as it may, before it extends below the ribs. If you will remember this fact you may some day confirm in this way a suspicion of a walking case of typhoid fever, in which, as in all infectious diseases, the spleen becomes enlarged. The surface veins of the abdomen, which we should be barely able to see, make a visible network here. And now, as I have him stand, I catch by tapping upon the surface, sufficiently distinctly for recognition, the touch of a fluctuating fluid within. In this position the line of the fluid reaches up nearly half way to the umbilicus.

Clearly, we have before us a case of cirrhosis in the stage of commencing, or fully commenced, retraction. We have, therefore, to speak of this disease as illustrated in the case before us.

The liver is such a big and prominent organ, and was the supposed seat of so many functions, even sensations, as to have received much attention from the earliest times. The very gross lesions of advanced cirrhosis could not escape the keen observation of the old pathologists, or rather anatomists, for pathology, in our understanding of it, is a modern field, and so we find allusion to it by even the writers of antiquity. What especially attracted their attention was the change in its consistence. Thus, Aretæus speaks of the *hepar durum*, and *hepar scirrhus* was another appellation to indicate hepatic induration. Bianchi even spoke of the "*jecus in minimam molem retractum*," and Vesalius of a case, attended with the well known symptoms in life, where the liver, on autopsy, was found "*totum candidum et multis trabeculis asperum*," etc.

Morgagni reported from his own observation, and from that of others, undoubted cases of cirrhosis in which the liver was found after death "*totum granulosum.*"

This was, however, the sum and substance of our knowledge of cirrhosis up to the time of Laennec (1819). The disease was not yet known as an affection distinct from others, from cancer, for instance, and nothing was known at all, as yet, either of amyloid or syphilitic change, or of the change produced by organic disease of the heart. So all these affections were confounded with cirrhosis.

Laennec came upon the disease quite accidentally in the course of his

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examinations of disease of the lungs. He had under observation a fatal case of pleurisy with hemorrhage from the lungs, and he noticed at the autopsy the curious condition of the liver, which he describes in a few words. As this was the first recognition of the disease as a separate affection the description is worthy of mention. He found the liver, he says, "reduced to one-third of its volume, concealed in the place it occupies, and seemingly composed of a multitude of grains of millet seed of a yellow or yellowish-red colour." In a foot-note he adds: "This is a species of production which has been called scirrhus. I will designate it cirrhosis, because of its colour [$\chi\iota\rho\rho\acute{o}\varsigma$, tawny, or orange-colour]. Its development in the liver is one of the most common causes of ascites. The liver is always atrophied when it contains these cirrhoses." Laennec, therefore, regarded the "cirrhoses" as new formations, and, in accord with this view, Abercrombie described the yellow matter of cirrhosis as "in small nodules like peas dispersed through the substance of the liver." It is amusing, in the light we now possess of the nature of cirrhosis, to read in Abercrombie that the "French writers have a controversy whether the cirrhosis or yellow degeneration of the liver be a new formation, or a hypertrophia of the yellow substance which they suppose to constitute a part of the structure of the liver in its healthy state. No good can arise from such discussions," he naïvely adds, "as it is impossible to decide them."

But we must not spend too much time with the history of the disease. It will be sufficient now to say that in the same year of the recognition of this the common form of cirrhosis (Laennec's cirrhosis, the French still call it), Bouillaud showed that the nodular or granular appearance was due to atrophy of the red substance of the liver, whence resulted a more salient projection of the yellow substance. Kiernan (1836) first clearly pointed out the hyperplasia of the interstitial connective tissue which we now know to be the lesion of cirrhosis, and Gubler (1853) first called attention to the fact that the first stage of the disease is characterized by hypertrophy, the second by atrophy of the liver. Finally, Klebs (1868) first proclaimed phlebitis and periphlebitis of the radicles of the portal vein as the initial anatomical factor in the pathology of the disease. It is not the granules, therefore, which constitute the disease. The granules represent constrictions of the liver substance. The constricting agents, the connective tissue, constitute the disease, which is properly designated, as Bamberger has shown, "chronic interstitial hepatitis."

Almost from the very first recognition of the disease the cause of it was known. By all writers and clinicians cirrhosis is looked upon as an expression of chronic alcoholism. "Gin-drinker's" liver is its common name in England, and the extent of the use of alcohol determines the geography of the disease. Males are its most frequent victims, because, as Hyrtl has remarked, "drinking is one of the manly accomplishments." But typical cases are encountered among females, under the same conditions. Even the apparent exceptions, Niemeyer says, support the rule. "Thus Wunderlich found typical cases of the disease in two sisters, aged eleven and twelve years; but, on careful inquiry, it was found that both of them were great schnapps-drinkers."

The liver has singular affinity, so to speak, for alcohol in any form. Percy found that he could recover alcohol in the bodies of dogs poisoned with it, from the blood, the brain, and other organs, but in greatest quantity from the liver. The researches of Perrin, Lallemand, and Duroy have shown that if we represent by 1 the quantity of alcohol found in the

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blood, after the ingestion of a certain amount of it, that found in the brain will be represented by 1.34, and that in the liver by 1.38. This accumulation of alcohol in the liver, taken in connection with the sluggishness of the circulation in the liver, the hepatic radicles being the second set of capillaries, furnish sufficient explanation of the selection of the liver as the organ which shall suffer most from the toxic effects of alcohol. Inasmuch, however, as all drinkers do not suffer alike, we must invoke, in addition to the alcoholism, some special susceptibility which renders the individual liable to the disease. In this respect cirrhosis does not differ from nearly all affections. The continuous reception and escape of alcohol in the organs of secretion finally induce in them, at first irritative, and then inflammatory change. First in order is chronic catarrh of the digestive tract, then degenerations of the glandular organs, atheroma of the vessels, pachymeningitis, forms of Bright's disease, and, what concerns us now, cirrhosis of the liver. Thus, epithelial cells and lining cells of vessels perish under long-continued application of alcohol, but the connective tissues, before they perish, are stimulated, under irritation, to excessive growth. Like rank weeds, under fertilization, the connective tissue swells and spreads exuberantly. Alcohol reaches the liver through the radicles of the portal vein. These radicles, at their ultimate termination, are among the finest and thinnest, as well as among the richest systems of vessels in the body. The unoxydized alcohol, that is that which is in excess of consumption, passes by easy osmosis through their delicate walls and bathes the equally delicate fibres and threads of connective tissue which form the soft skeleton work of the recesses of the liver. The nuclei multiply, the threads become cords and bands, the whole liver swells. This is the first or hypertrophic stage of cirrhosis of the liver. When the connective tissue has attained its full maturity, it begins to shrink. The connective tissue in the liver contracts just as scar tissue shrinks everywhere else—on the face, for instance, and the deformity of the liver that results is just as great. For the liver is so shrunken up by the retractile threads of connective tissue as to look, both upon its free surface, and upon the surface of section everywhere, like the bottom of an iron-founder's shoe. "Hob-nail liver," it is sometimes called, and the hobs or nodules may be sometimes felt in thin people, or after tapping, even beneath the skin. It is not unfrequent to find the whole of the left lobe shrivelled to a mere appendage to the right.

Wickham Legg maintains that the primal factor in cirrhosis is constriction of the bile-ducts. He has shown, he claims, that obliteration of the ducts always leads to an overgrowth of the connective tissue in the liver in children, and that a no less marked cirrhosis ensues upon ligature of the ducts in the lower animals. Now it would be a very simple sequence to ascribe cirrhosis first to a catarrh of the duodenum which would so thicken the orifice of the common bile-duct as to interfere with excretion, and thus induce as secondary factors retention of bile, and, in consequence of its irritation, cirrhosis of the liver. The sequence is so simple as to be seductive. But the facts as they occur speak against it. For, in the first place, true jaundice is rare in cirrhosis, and it should be most pronounced in cases of occlusion, and, in the second place, the same cirrhotic change, that is, the same proliferation of connective tissue, attends chronic alcoholism in organs when there is no bile, as in the kidneys and the brain. The real sequence of pathogeny and pathology is this: alcoholism, periphlebitic hyperplasia, cirrhosis in the second stage.

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The symptoms of cirrhosis irradiate from the liver as the central point. Most of them are easy of explanation on mere mechanical grounds. A few of the last and worst of them call out a knowledge of the physiology of the liver.

We never know just when the cirrhotic process begins in the liver, for the first symptoms are purely gastric. Gastric catarrh with its well-known attendants precedes the more pronounced and peculiar phenomena of the disease, for months, or even years. Our patient describes, in the course of his own case, the vanguard of the symptoms of the disease. Gastric distress, nausea, and vomiting, especially in the morning, heartburn, constipation alternating with diarrhœa; this is the train of symptoms that march in the front, or by the side of cirrhosis of the liver, for months and years, at times, before the symptoms of more complete obstruction arrive. Gradually, however, the hyperplasia of the connective tissue advances, or gradually it tightens up in its contraction upon the intervening liver-cells and vessels and ducts. The skin grows sallow and dry, the conjunctivæ are yellow from the start, emaciation sets in, all from lack of formation, or from slight reabsorption of blocked-up bile, then water is forced out of the radicles of the portal vein into the abdominal cavity, and from these distended vessels blood may escape into the stomach or intestine. Collateral circulation may, to some extent, compensate for the occlusion of the portal vein, and thus obviate for a time the worst phases of the mechanical hindrance. In fact, it is the establishment of collateral circulation that chiefly protracts the life of the individual affected with the disease. It is a matter of real surprise how many avenues of collateral circulation are brought into play in atrophy of the liver. There are vessels in the gastro-hepatic omentum from the lesser curvature of the stomach and connective tissue between the folds of the omentum, there are 12 to 15 small vessels which pass from the gall-bladder; besides these, the vasa vasorum, the vessels which run along the walls of the portal vein, hepatic artery, and bile-ducts; a fourth group descend from the diaphragm in the suspensory ligament; a fifth, the largest of all, the vessels which form the visible network on the surface of the abdomen, communicating with the epigastric and internal mammary veins; a sixth, the vessels which ramify upon the œsophagus and empty into the diaphragmatic veins. Fatal hemorrhage has been reported by Audibert, and Fauvel, from œsophageal varices formed in this way. Rokitansky first called attention to the circle of tortuous and distended vessels about the umbilicus, representing the so-called "caput Medusæ," not present in our case, and present in cases of cirrhosis, rather as an exception than a rule. After much discussion concerning these vessels, I believe the appearance is now admitted to be due to the reopened umbilical vein (Bamberger, Baumgartner, and Klebs). These various avenues of collateral circulation may become enlarged to such a degree as to relieve the pressure in the portal vein, and thus allow to disappear the ascites already formed, or, if preternaturally of large size, to prevent its appearance altogether. It is only in this way that we may account for the fact that a certain percentage of cases, according to Frerichs, one-third of the whole number, show no ascites at all.

Digestive disturbance, partly the direct effect of alcohol, partly the effect of arrest of the hepatic function, emaciation, and corresponding reduction of strength from the same cause, ascites, enlargement of the spleen, hemorrhoids, and hemorrhages from mechanical occlusions, enlargement, and subsequent contraction of the liver itself; these are the chief and promi-

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nent symptoms of the disease. It remains now to take a cursory glance at the symptoms of secondary import.

Jaundice is seldom marked. Some slight discoloration of the skin belongs to every case, but genuine icterus betokens rather an accidental complication (gall-stone, compression by a band of hyperplastic tissue, catarrh of the bile-ducts, etc.). Icterus is exceptional in cirrhosis for the simple reason that the destruction of the liver-cells prevents the formation of bile.

General dropsy or œdema of the lower extremities does not belong to the symptomatology of cirrhosis. A great accumulation of ascites may compress the vena cava, or a profound debility, the general result of the suppression or annihilation of the function of the liver, may cause general dropsy, but these factors are not peculiar to cirrhosis. So accumulations of fluid in the abdomen, or the heavy weight of the liver may interfere with the action of the diaphragm, and thus induce dyspnœa; but symptoms on the part of the respiratory system do not constitute an integral part of the history of the disease.

The brain is clear in cirrhosis throughout the course of the disease, but towards its close, when the atrophy of the liver-cells has become more or less complete, there supervene, at times, grave symptoms on the part of the nervous system, delirium, convulsions, or coma, which indicate the toxic effects of elements that should be excreted with the bile. Pain or even tenderness is quite exceptional, and is due, when present, to perihepatitis. The shoulder-tip pain, which may be present in cirrhosis, as well as in every other organic disease of the liver, is satisfactorily explained by the anatomical demonstration by Luschka of the anastomosis of the phrenic and fourth cervical nerves.

The urine in cirrhosis furnishes most valuable evidence. It is scanty, dark, and turbid, loaded with urates and other products of combustion, the result of the wide-spread havoc in nutrition. A clear and limpid urine would speak strongly against the existence of the cirrhotic process. It is now well known that the liver is the chief organ in the body in the manufacture of urea, but it is not necessary to appeal to this fact, when the waste is so universal, to account, in cirrhosis, for the accumulation of the urates (undecomposed urea) in the urine.

Lépine has lately called attention to the glycogenic function of the liver in connection with cirrhosis. The liver makes and uses up sugar in greater abundance than any other organ in the body. Lépine found that sugar appeared in the urine of cirrhotic patients who had been fed with it, a result that might have been inferred from the destruction of the liver cells. In cancer this is not the case, because cancer is mostly localized in the liver, and does not cause such universal abolition of function.

We may not fix the duration of cirrhosis: first, because we never know exactly when it commences; secondly, because the course of the disease may be interrupted fatally (by a hemorrhage, or as the result of pressure of ascites upon the heart and lungs, etc.), or conservatively, by arrest of the process in the first stage, or in the beginning of the second. While it is safe to say that the prognosis is bad, it is dangerous to proclaim that the patient must die soon, or must die at all of the disease. Cases are now abundantly on record, and they may be recalled in the experience of every clinician, where the disease process has been brought to a stand, and the patient has survived for years to smile upon his physician for the rest of his days.

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The *indicatio causalis* in the treatment of cirrhosis is total abstention from alcohol. The time may come when the patient will need some support, and when the light Rhine wines, or even a little beer, may be allowed; but any stronger drink must stand absolutely under ban. The diet should be light and nutritious, on a basis of milk and other animal food. A few drops of Fowler's solution, after meals, will help its digestion, absorption, and more especially assimilation.

As for drugs, in general, they may meet the symptoms only. With any knowledge of the anatomy of the disease who would expect to cure it? A stomachic tonic, nux vomica, a dilute mineral acid, hydrochloric, may be written *ut aliquid faciat.*

The only remedial agent that merits the name is puncture of the abdominal wall, and release from the abdominal dropsy. Early and frequent puncture is the result of the testimony of those who have had most to do with cirrhosis. Murchison, especially, is emphatic in its praise. To wait until life is endangered on the part of the heart, and lungs, and kidneys, is to let slip the only chance of arresting the disease. The release of the dropsy sets all the absorbents free. The peritoneum cannot pick up fluids under great pressure. Moreover—and this is the main advantage—the relief of the pressure renders possible the establishment of the collateral circulation, a process to be favoured in every way. The removal of the cause of the disease by abstention from alcohol, and the removal of its worst effect by relief of the dropsy, gives the patient the full benefit of the knowledge we get from pathogeny and pathology. Purgatives, like the salines, diaphoretics like jaborandi, diuretics like digitalis, tonics like iron, may all meet indications at times in the earlier history of the disease, but paracentesis will substitute all of them when ascites is fully declared. Not only are the lungs relieved in this way, Murchison says, but by the removal of pressure from the portal and renal veins the secretion of urine is increased. "I have known hemorrhage from the bowels," he continues, "arrested by paracentesis in cirrhosis, and it is a common observation that patients with much ascites, who, notwithstanding the most powerful diuretics, have been passing only a small quantity of urine containing much albumen, will, after paracentesis, and independently of drugs, void large quantities of urine free from albumen." The same author quotes the experience of Dr. Lyons, of Dublin, in a case which he tapped thirty-six times, at intervals of three or four weeks, withdrawing 14 to 16 quarts on each occasion, with the effect of bringing the disease to a stand at the end of one year after the last operation.

Thus, you may hope to hold the disease in check so far as the mechanical evils are concerned. Unfortunately, over the physiological evils, if we may use such an expression, we have less control. The body must have bile. A successful biliary fistula which carries off all the bile, inevitably leads to the death of the animal by inanition. Should the interstitial process continue, which it does in the rule, the liver cells are finally killed, bile is no longer formed, and death by starvation results. This is the mode of death in most cases of cirrhosis, and death in this way is *lege artis*. But the liver is immense in its size. It has superfluous cells in abundance, and the disease process may be arrested before destruction becomes universal. The patient may not be restored to the state of health, but he may live in comfort for years.

In ancient days, when parchments were scarce, old manuscripts were effaced from them at times, and new writing was put upon the page. It

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was never so clean and legible as the original sheet, but still it could be preserved and deciphered with care. Such a parchment was called a palimpsest. With more care and study, a practised eye could read, through the new writing, the old, original draft. The liver is a palimpsest at best, for the rest of his days, in a patient in whom has been arrested, but never entirely effaced, the inscription of cirrhosis. I put this statement to you in this way, to impress it upon you that you must not condemn to death a patient with cirrhosis.

SOME EFFECTS OF LONG-CONTINUED LACTATION UPON THE OVARIES AND UTERUS.

BY W. JAPP SINCLAIR, M.A., M.D.,
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GENTLEMEN: During the whole period of pregnancy the breasts are undergoing a gradual process of evolution to prepare them for the performance of their function. Immediately after the completion of parturition there is a sudden acceleration in the progress of evolution, and it is completed within a period varying from a few hours to two or three days. The rapid engorgement of the breasts which is observed in this last stage of evolution may be unaccompanied by any discomfort, but, on the other hand, it often is accompanied by considerable constitutional disturbance, and the local condition may vary through all the degrees of hyperæmia to inflammation, ending perhaps in abscess, and partial destruction of the gland. Stimulation of the breasts at this time has a powerful effect on the contraction of the uterus; and this is only an exaggerated expression of a constant relation between the breasts and the central sexual organs. These are of course well-known facts, and they are mentioned here merely to compare them with the details of what is to a large extent the reverse process, which we are to consider more closely.

As the function of lactation becomes established, the uterus and ovaries undergo a rapid process of involution. This process, as far as the uterus is concerned, can be observed and exactly measured, and is not disputed. The involution of the ovaries also bears some relation to the evolution of the breasts. Menstruation is wholly or partially suspended because ovulation is less active during lactation, and hence impregnation is less likely to take place. This fact is well recognized and acted on by women themselves, but it has received little attention from gynæcologists, probably owing to the tendency to set down a popular belief as a popular error. For example, Mr. Lawson Tait, in his "Diseases of Women," says: "Amongst the working-class of our large towns there is a widely prevalent belief, for which I must say I have discovered no good foundation, that prolonged suckling hinders the mother from becoming pregnant." A well-known law of biology makes a presumption in favour of the popular belief in this instance; and, moreover, a careful inquiry as to the relation in time between weaning and succeeding pregnancy over a large number of cases, taken along with other well-known facts must convince most of the overwhelming proof by which the law of alternate evolution of ovaries and breasts is established.

According to this law, though the apparent exceptions are numerous, a woman does not menstruate perfectly, nor become pregnant, during the time of suckling; and on the gradual cessation of lactation, the re-evolution of the sexual organs becomes gradually complete. This completion can be inferred only from the

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establishment of normal menstruation and the absence of abnormal phenomena. But when lactation has been carried to excess, we may expect that it has exercised a greater than average influence upon the sexual organs; and when lactation is suddenly stopped, it is reasonable to expect that the final stage of the evolution of the sexual organs will be more rapid than usual, and accompanied by some unusual phenomena. Opportunities of observing whether such phenomena do actually occur are plentiful enough. It is quite a common thing in this part of the country for women to suckle child after child for eighteen months or two years, and to wean them in a day or two. We have occasionally also the opportunity of observing what takes place on the death of a child from acute disease or accident after prolonged suckling. Now, I think we shall find in those cases evidence of a sudden revulsion towards the nutrition of the sexual organs analogous to the final stage of the evolution of the breasts after parturition. The ovaries and uterus became engorged, giving rise to pain and discharges, which may call for medical treatment.

In inquiring into this subject I have not been able to obtain much light from the major prophets of gynæcology. The action and reaction of the breasts and sexual organs, and the consequent influence of lactation as a cause of disease of the latter, appear to have received very little attention, or at least mention. That is, of course, a presumption that the subject does not deserve it. I have looked through Emmet's recent work, and have failed to find a reference to the subject. Thomas, who is usually so full on the causes of disease, merely mentions lactation as a predisposing cause of "chronic cervical endometritis," but why and in what way it acts he does not hint. Martineau, of Paris, in his book on the "Diseases of the Uterus and its Appendages," devotes a chapter to the causes of disease, and as he condescends to mention *Saphisme*, which, it appears, is a lewd habit, practised by some women of the time of Sappho in ancient Greece, and revived in modern Paris, he may be supposed to be exhaustive in his enumeration; yet he makes no mention of excessive lactation. The only explicit reference I find to the subject is in one of the works of Marion Sims. He says: "I know very well we may have menorrhagia from mere debility, from superlactation, and from some temporary engorgement of the portal circulation, but such cases are not very common, and not usually obstinate." I believe, on the contrary, that menorrhagia from super-lactation, and the other effects arising from the same cause, form a subject too interesting physiologically, and too important in practice, to be dismissed in this summary fashion; and this view I hope to be able to establish by means of the cases which I am to bring under your notice. It is necessary, for the sake of brevity, that I should select from a considerable number of cases, some of which were meant to illustrate various details, only the most striking, and mention merely the relevant circumstances in these.

Case 1.—H. M., aged thirty-six years. Married twelve years; five children, no miscarriage. Husband, labourer. Seen first, April 8, 1879. Symptoms of anæmia lactantium. Weaned child less than three months ago; had suckled him twenty-four months. Menstruation did not return till after weaning; now too frequent, recurring every two weeks, lasting four days, very profuse. Medicinal treatment first adopted, ferri et quin. citr. and pil. rhei co. Next interval lasted three weeks; then menstrual period of five days.

History of Suckling.

First child born 13 months after marriage; suckled 18 months.									
Second	"	"	2¼	years	after	first child	"	18	"
Third	"	"	2½	"	"	second "	"	18	"
Fourth	"	"	2¼	"	"	third "	"	18	"
Fifth	"	"	2¼	"	"	fourth "	"	24	"

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Mother never pregnant before weaning. Menstruated once, at least, in the interval; on one or two occasions she menstruated twice before becoming pregnant. This patient was last seen on May 27, when she thought herself quite well again. On January 27, of this year, she applied for a midwifery card, and expected to be confined in February.

This is a fairly typical case of the sequence of suckling, weaning, menstruation, and conception. After the extremely prolonged suckling of the fifth child, menorrhagia follows. The mere exhaustion and anæmia, however well marked, do not account for the symptoms. We have more extreme cases in which no such effects follow when the women are well cared for and manage weaning in a rational way. The following is a good illustration of what a woman may go through without any definite local ailment ensuing.

Case 2.—H. L., aged forty-two years. Married twenty-one years; ten children, no miscarriage. Patient looks robust at first sight, but presents ordinary symptoms of anæmia lactantium. Suckling a child aged thirteen months; has not begun to menstruate.

History of Suckling, etc.

First child born	March	21, 1859	: suckled	12	months.
Second "	" Feb.	8, 1861	"	14	"
Third "	" Oct.	9, 1863	"	7	"
Fourth "	" July	5, 1865	"	15	"
Fifth "	" Oct.	15, 1867	"	12	"
Sixth "	" Sept.	30, 1869	"	15	"
Seventh "	" Dec.	10, 1871	"	13	"
Eighth "	" Nov.	14, 1873	"	10	"
Ninth "	" June	30, 1875	"	14	"
Tenth "	" Sept.	2, 1877	"	13	"

Advised to wean child gradually, which was done. An examination of these details will show that the conception never took place until after weaning, and that the interval between weaning and conception varied in duration from one to three months. This patient had a large, heavy uterus, but there was no tendency to prolapse and no history of menorrhagia.

The next case goes to the other extreme: the symptoms appear to have arisen as the immediate result of rapid weaning after the long-continued suckling of the third child.

Case 3.—A. T., aged twenty-four years. Married seven years; three children, no miscarriage. When first seen, complaining of pain in right ovary and constant discharge of blood for about six weeks. Patient suckled the last child a year and nine months, and had not menstruated during that time. Weaned the child in two nights; a week later, began to have pain in the right ovary, and in another week the discharge appeared, and has not ceased since. No history pointing to miscarriage. On examination, the uterus not found enlarged, except a fulness in right half, which is more tender to touch than the other side, and on pressure upwards on right side towards ovary the pain felt there is intensified. No enlargement of the ovary made out. Treated for ovarian menorrhagia and slight cellulitis. History of previous lactation not obtained.

The next two cases are illustrative of what may occur after the death of the child (from acute disease) when lactation has been carried on a considerable time.

Case 4.—E. B., aged forty-one years. Married nineteen years; fifteen children born alive, and three miscarriages. Husband, labourer. Seen first, December 9, 1879. Condition of patient indicates great exhaustion; nervous symptoms indicating anæmia of brain. Has suckled all her children, but some of them for only one, two, or three months. Obscure history of previous floodings after

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weaning. Last child born eleven months ago: lived seven months; took breast up to day before his death. Patient began to menstruate three days after the child's death, and continued for a fortnight. Since then the hemorrhage has not stopped for more than four days at a time. This patient improved under purely medical treatment, but did not remain long under observation.

Case 5.—L. S., aged forty-three years. Married twenty-three years, fifteen children, four miscarriages. Husband a labourer. When first seen, patient complained of a feeling of weakness about womb, as if it would fall down; profuse leucorrhœa; incontinence of urine under any strain, such as coughing; feeling very weak, and could not walk any considerable distance without bursting into perspiration and feeling as if she would fall down; palpitation, giddiness, rapid loss of vision and of memory since last confinement.

History of Suckling, etc.

First child born 18 months after marriage; suckled 16 months.
Second " 22 " after first child " about 16 "

And so on—every child about twenty-two months after the previous one, and suckled about the same length of time. Patient was always pregnant again before weaning the child at the breast. One child, now aged four years, was suckled two years, the mother going through an attack of rheumatic fever of eleven weeks' duration in that period. The next child was born twenty months ago, and lived nine months. Was suckled up to the day of its death. Patient began to menstruate from four to six weeks after, with severe pain and flooding, for which she was under treatment here. Says she has had two miscarriages since, but is not sure whether one of them was only very profuse menstruation.

In this case the treatment adopted was purely constitutional, and when patient was last seen (March 2, 1880) she was very much better. Had menstruated normally for two successive periods; the tendency to prolapse had entirely passed away, and the urgent symptoms of exhaustion had disappeared.

Case 6.—E. H., aged twenty-nine years. Married twelve years; six children, one miscarriage. Very anæmic. There has been much leucorrhœa for three years; menstruation is now too frequent, and the flow excessive, leaving her weak and nervous, with symptoms which from description appear to be a sort of *petit mal*. Weaned child, aged fourteen months, about two months ago, and has menstruated three times since—weaning done at once when menstruation appeared for the first time since confinement, and that period lasted four days. Speaks of being "flooded away" since then. The next period after patient came under observation lasted six days, and was very profuse. On its cessation an examination was made, of which the following is the note: "Uterus normal to touch: by speculum, os surrounded by ring of highly coloured mucous lining which has tendency to bleed; outside this ring is one of a bluish colour, as if full of venous blood, like a minute varicosis, which keeps all the way round at an even distance from the bleeding ring, except at one point where there is an old fissure. Sound passes easily in normal direction, giving the impression of a cavity wider than normal; canal three-eighths of an inch too long." Patient had suckled all her six children. Three weeks after patient came under observation she menstruated for the fifth time since weaning—that is, in eleven weeks—and the flow continued a week. She was under treatment and observation for two and a half months, and the last note was that she was quite well. The only local treatment employed during the whole time was the introduction into the cervical canal of a bougie of acetate of lead and bismuth.

The next case shows similar phenomena occurring in a woman who had borne only two children.

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Case 7.—S. C., aged twenty-five years. Married seven years; two children, no miscarriage.

History of Suckling, etc.

First child born 2 years 9 months after marriage; suckled 16 months.
Second " 2 " 10 " after first child " 17 "

After the birth of the first child patient menstruated regularly, never missing a period until she became pregnant again. After the birth of the second child she remained six months without menstruating, and was regular until after weaning the child when seventeen months old. She applied for advice about eight weeks after weaning. She complained then of pain in back and pelvis, with a sense of dragging and discomfort at the anus; had menstruated a fortnight after weaning, and again two weeks since; each time there was hypogastric pain before discharge appeared, and the period was longer and discharge more profuse than usual. On examination, uterus felt enlarged and rather low, tender to touch posteriorly; os patulous, with erosion round it. Sound passes easily normal distance. First notes taken on September 10. On the 19th patient began to menstruate again, and the flow continued very profuse till the 24th. Began again on the 29th. When patient was last seen, on November 7, menstruation had been normal since last date, but an aching continued about the right ovary.

Case 8.—This is a case in which there existed before weaning symptoms of exhaustion similar to those already described. It was to be expected that menorrhagia or some symptom of engorgement of the sexual organs would occur if weaning were delayed and conducted injudiciously. The patient was kept under constitutional treatment while the child was gradually weaned. E. F., aged twenty-nine years; married eleven years; six children, no miscarriage. Suckling child aged eight months; menstruated once last month.

History of Suckling, etc.

First child born	February	1, 1868	; suckled	12	months.
Second "	January	15, 1870	"	12	"
Third "	March	12, 1872	"	10	"
Fourth "	March	17, 1874	"	12	"
Fifth "	November	30, 1875	"	9	"
Sixth "	January	4, 1878	"	9	"

The last child was weaned while the mother was under treatment. Patient seen occasionally for two months after weaning completed, and she was then quite well. This is a merely negative case, but, considering the rapidly recurring pregnancies and long-continued lactation—more than five years of the eleven years of married life—and the consequent anæmia and exhaustion, it is not without value to contrast with other cases.

Now, leaving menorrhagia and allied conditions, let us consider a case of a different sort.

Case 9.—F. C., aged twenty-eight years. Married eleven years; four children, two miscarriages. First seen May 20, 1879. Complaining of a bearing down for four months, and on examination the uterus was found completely prolapsed, with a large ulcer on the posterior surface of the cervix. Patient had been a washerwoman ever since her marriage, but never had any bearing down until the time stated. Was never delivered with forceps, but says she was "a good deal torn" in second labour six years ago. Perineum bears marks of having been ruptured to verge of anus.

Until the beginning of September attempts were made by pessaries and various applications to remedy the ailment, without success. It was then proposed, considering the patient's age, to operate in order to contract the vagina and improve the perineum. To this the patient consented, and was about to be admitted to

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the hospital when an unexpected difficulty arose. She was suckling a child twenty-two months old. At the time the patient applied for advice the case was so evidently one of prolapse that no questions had been asked about lactation, and it must be confessed that the endeavours to find a sufficient mechanical treatment had taken away attention from the patient's condition in other respects. By this time several cases of the sort already described had received attention, and it seemed probable that in this case the atony due to long-continued lactation had something to do with the prolapse. Patient was advised to wean the child gradually, but she completed the process in less than a week. On September 16, a week after complete weaning, she reported that the womb had not come outside, and she felt better. On the 23d there was only a slight dragging, no prolapse. On October 1 she began to menstruate for the first time since her last pregnancy, and the womb had completely returned to its normal position. On October 28 she reported herself again menstruating normally, and feeling strong and well.

It should be observed in this case that prolapsus occurred for the first time when the patient had suckled her fourth child fifteen months. A sufficient explanation appears to be the following: Under favourable circumstances the involution of the ovaries and uterus had gone on to a greater extent than usual; super-involution of the uterus and atony of its supports gave a favourable condition for prolapse, and the patient's occupation accounts for the rest. The condition of the sexual organs in this case at the time of prolapse would be similar to what we find in women just past the change of life, in whom prolapse is so common. When the child was weaned, the force which was being wasted on the child was directed to the sexual organs, their nutrition received a rapid acceleration, and they soon recovered their normal condition.

Several cases of the same ailment in a much slighter form have come under observation since. One of them was that of a poorly nourished woman who was suckling her second child in the sixth month, and suffering from a dragging of the pelvic organs as if prolapse were beginning. Improvement followed weaning.

Now, considering the infinite variety of circumstances affecting the health of child-bearing women, and the consequent liability for the working of one physiological law to be obscured by other physiological and pathological conditions, it would be rash to state with confidence as proved any general proposition concerning the phenomena which I have described. But if the cases do not establish a proof, they afford a presumption of the truth of the following propositions:—

1. Lactation tends to prevent conception by its influence on the ovaries in retarding their return to the state in which ovulation is perfect.

2. After weaning, the evolution of the ovaries becomes more rapid than it is during any period of lactation.

3. After long-continued lactation, its sudden cessation is liable to be followed by a rapid evolution of the ovaries and uterus, giving rise to symptoms of ovarian and uterine hyperæmia.

4. Long-continued lactation may cause super-involution of the ovaries and uterus, resulting, under favourable circumstances, in complete or partial prolapse of the uterus.

If a *prima facie* case has been established for these views, the germ of truth can be developed, and the erroneous eliminated by further observation. Meantime, what appears to me to give value to the result so far obtained is that it affords some promise of a basis for the rational treatment of a considerable class of diseases of women which are not as yet treated upon any principle whatever. When the internal organs of generation are in a hyperæmic condition, whatever be the cause, one of the most ordinary phenomena is some sort of discharge. Now,

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it is obviously irrational to try in any case to cure the condition giving rise to the discharge by the application of caustic substances to the most accessible part of the organs affected. But when the hyperæmia and consequent phenomena depend upon the revulsion after lactation, such applications to parts already functionally too active must do positive harm. It would be as rational to cauterize the engorged breasts the day after labour. When symptoms such as those described in the notes of cases are met with, it would be well to ascertain, as mere routine, whether they can have any relation to oversuckling. To establish such a relation is to ascertain the cause of the disease; the treatment, both constitutional and local, can then be carried out with a confidence and precision, and also with a success which does not ordinarily attend the efforts of the gynæcologist when dealing with these rather indefinite ailments.—*Med. Times and Gazette*, Sept. 4, 1880.

Hospital Notes.

Epithelioma of the Rectum removed after a new Plan without injuring the Sphincter Ani; Recovery.

I. C—, aged sixty-four, married, was admitted into St. George's Hospital, under the care of Mr. ROUSE, in May last, with an epithelioma of the rectum of about six months' growth, situated on the left side of the bowel, about one inch above the anus. The growth was flat, sessile, of about the area of half a crown, and limited to the mucous membrane and the submucous tissue. The deeper parts felt apparently uninvolved.

On June 17th Mr. Rouse removed the growth in the following manner. A curved incision, an inch and a half in length, was made, just outside to the external sphincter, and parallel to the outline of that muscle. The skin was then dissected up outwards for a short distance, so that the outer circular fibres of the sphincter were exposed. The muscle was then drawn over towards the middle line. By introducing the finger into the rectum, the growth was pressed into the external wound, and it was then cut out, together with that part of the wall of the rectum to which it was attached. In this way an opening, about the size of a half-crown, was made through the bowel. After the closure of the skin wound but a small cavity could be felt, corresponding to the former situation of the growth. The hemorrhage was very slight.

Opium was given in order to keep the bowels confined for some days. The recovery was almost uninterrupted. For some few days slight feculent discharge took place from the wound, but after about three weeks this had completely ceased, and the patient then had entire control over the contents of the rectum. As a matter of fact, scarcely any feces escaped, but the suppuration resulting during the granulation and closure of the cavity possessed a fecal odour. When the patient left the hospital, about a month after the operation, the power of the sphincter was perfectly normal. The general symptoms were much relieved.

Remarks.—The advantages of this method of operating, in suitable cases, are obvious. In the instance described above, it is true, the growth was of small extent and limited to one side of the bowel. There seems no reason, however, why this operation should not be equally applicable to growths of much larger size. The advantage of preserving the sphincter intact is patent; no doubt, in some cases an operation of this nature might advantageously be substituted for complete removal of the lower end of the rectum. Certainly, numerous cases have been recorded where no incontinence of feces followed the latter proceeding; but still this method of operation gives the patient additional security against a highly unpleasant condition, without any additional concomitant risk.—*Lancet*, Oct. 2. 1880.

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MONTHLY ABSTRACT.

Anatomy and Physiology.

Regeneration of the Spinal Cord.

Although in some of the lower animals it has been shown that the spinal cord, after division, may reunite, all attempts to obtain this result in the case of dogs have hitherto failed. It is possible that this is to be ascribed to the age of the animals on which the experiments were performed. EICHORST, experimenting upon very young dogs, has succeeded in obtaining union of the cord and partial restoration of function, in a comparatively short space of time. Although successful in only one case, the particulars of the experiments are of much interest.

In three young dogs the spinal cord was divided between the lower part of the dorsal and upper part of the lumbar regions. Immediately after the operation there was, of course, complete motor and sensory paralysis of the parts supplied from the cord below the section, and vigorous reflex movements could be obtained. The wounds were treated on strict antiseptic principles, but thymol was employed instead of carbolic acid, on account of the action of the latter on the nerve-tissues. The first animal experimented on died in twenty-one days, without any return of voluntary power or of sensation in the paralyzed parts. The post-mortem examination showed that there had not been the slightest attempt at regeneration of the divided cord. The ends were three millimetres apart, and were united by a gray translucent gelatinous substance which was in intimate organic connection with each extremity. This intermediate tissue consisted of large round cells, containing nuclei which were deeply stained by carmine, and a finely granular interstitial tissue which could be resolved, by a high magnifying power, into clear granules and fibres. There were numerous capillary vessels, the proper wall and adventitial sheaths of which were permeated with elongated oval nuclei. Nowhere could any trace of nerve-elements be discovered. It was a cicatricial tissue closely analogous to that of the neuroglia. The nerves of the lower extremities presented no structural alteration.

In a second dog operated on in the same manner, a return of voluntary movements commenced at the end of the fourth week. The dog became able to stand, sit, and finally to run 180 feet without interruption, although its movements were distinctly ataxic. Sensibility, however, remained absent. The animal was killed on the thirty-fifth day. A grayish substance, somewhat flattened from before back, had restored the continuity of the cord. The part corresponding to the anterior and lateral columns already presented a medullary aspect. The nerves and muscles of the lower extremities were normal. Microscopical examination of the new tissue in the cord showed it to be permeated by tracts of nerve-fibres, running from above downwards, of which most possessed a medullary sheath. Many of the fibres presented nuclei which had the aspect of being pressed into the fibres from their surface. Non-medullated nerve-fibres were less abundant, and showed a tendency to a varicose condition. The two kinds had no regular distribution. The interstitial connective-tissue presented cellular elements, colouring deeply with carmine, and provided with processes. Besides these, there were two very large cells with double contoured nuclei and large processes, but whether nerve-cells or connective-tissue elements it was impossible to say.

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In the third dog, although it lived for 131 days after the operation, there was no renewal of the motor or sensory functions, nor was there any restoration of the continuity of the cord. The extremities were two millimetres apart. In neither animal was there any secondary degeneration in the cord.—*Lancet*, Aug. 7, 1880.

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The Cause of the First Cardiac Sound.

It can hardly be said that we are even yet in a position to satisfactorily account for the production of the first sound of the heart. The generally received explanation is that it is composed of two elements, a valvular and a muscular—although physiologists differ upon the exact share taken in its production by the contraction of the heart-muscle, and some even doubt its share at all. A paper was read at the meeting of the Paris Academy of Medicine on August 31st, by M. ROSOLINO, of Athens, in which (so far as we know) an entirely novel and not unreasonable explanation was broached. This observer maintains that the sole cause of the first sound is the vibration of the chordæ tendineæ in the systolic eddy of the blood-stream. He argues that if it were due to the flapping together of the valve-cusps, it should be produced mechanically by simple traction on the cusps by the cords; but experiments on the human and equine heart fail to bear this out. A simple membrane which from being lax is suddenly stretched produces a sound; but the valve-cusps exist under more complex conditions—since they are more or less fixed by the chordæ, which are inserted not only on their free margin, but also on their surface. The cusp is not therefore free to move in its whole extent, like an unattached membrane; and it is rendered tense by the general contraction of the papillary muscles. Nor is the first sound due to the passive closure of the valve by the blood-column. VALENTIN thought this might be the case, and endeavoured to prove it by showing that a similar sound was produced by suddenly distending with fluid a coil of collapsed intestine; but he could not have obtained it had he artificially enlarged the calibre of the intestine previously, and then stretched its walls. If the sound is abolished by hooking up the valve, it is because the procedure also destroys the meshwork of the chordæ tendineæ. Again, M. Rosolino has produced a similar sound by projecting a current of water over cords attached at both ends, and disposed like the chordæ tendineæ. He rejects the muscular hypothesis, not from his own research, but by the facts advanced by CHAUVEAU and FAIVRE. Nor is the theory of its production by the friction of the blood against the walls of the auriculo-ventricular orifice tenable, since in that case the bruit produced in aortic constriction, where this friction would be most developed, should partake of the characters of the first sound instead of a blowing character. The ventricular wall, tense and solid as it is, cannot vibrate like the chordæ, which from their tenacity, their tension, and their freedom from attachment except at the extremities, are in a condition to allow of true vibrations. As stated above, we are not aware that this explanation has been before offered. It is ingenious and worthy of consideration, but at the same time it must be obvious that in cases of simple regurgitation from dilatation of the cavity, the condition of the chordæ may be almost unaltered, and yet the first sound will be abolished, or rather replaced, by a murmur; and it is difficult to entirely throw over the view that the actual impact of the cusps, and their sudden tension during systole, is not a great element, if not the sole cause of the sound.—*Lancet*, Oct. 2, 1880.

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Vaso-motor Action.

The influences which determine the condition of the bloodvessels, their dilatation or contraction, are of extreme importance. Current opinions of the nature

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of these influences have largely dominated theories of both healthy and morbid action, and every new fact regarding them is of the greatest interest to both the physiologist and the pathologist. A series of investigations by Dr. W. H. GASKELL, which have been carried on in the physiological laboratory at Cambridge, and lately described to the Royal Society, constitute an important addition to our knowledge, and furnished the subject of one of the most interesting demonstrations given at the recent meeting of the British Medical Association. Although their greatest interest is in relation to the peripheral vessels, the observations deal primarily with the states of the heart. Complex as the mechanism of cardiac action is, the apex of the frog's heart presents much more simple conditions, in that it is, so far as has been ascertained, destitute of nerves or nerve-cells. It thus presents a favourable object for the investigation of certain phenomena of vascular action. It has been hitherto believed that all inhibiting or dilating influences on both heart and vessels depend immediately on the nervous system. In accordance with this view, if the nerveless lower part of the ventricle of the frog is physiologically separated from the upper part by a ligature, it ceases to beat, even though, by a canula previously introduced, the frog's own blood is supplied to it. But Meronowicz has found that if an artificial blood solution is supplied to it, or it is stimulated by the constant current, this nerveless apex will recommence its rhythmical contractions; and Foster has further ascertained that the same effect is produced when the heart is supplied with the frog's own blood, but the pressure of this is increased, as by clamping the aorta. Hence, if the stimulation afforded by a mere increase in the intracardiac pressure will induce rhythmical contractions in a nerveless heart, we must regard the view that the action of the muscular walls of the vascular system depends solely upon nervous influence as at least open to reconsideration.

It has been lately ascertained that a dilute alkaline solution will re-excite contractions in the isolated and quiescent apex. This effect was ascribed to the removal of some obstruction. But the suggestive fact has been ascertained by Gaskell (employing Roy's tenometer, by which variations in the size of the cavity are recorded) that the contractions so excited are presently arrested by the heart passing into a condition of tonic spasm. The relaxation between successive beats becomes less and less, and the heart apparently stops in systole. It is not a state of tetanus—*i. e.*, of rapidly recurring contractions—but apparently one of "idio-muscular" contraction or tone. If a saline solution is passed through the heart, it will frequently remain without beating, and then sometimes the alkaline solution may be observed to cause a gradual tonic contraction without any rhythmical beats. It was next found that a dilute acid solution (of lactic acid) had an action precisely opposite to that of a dilute alkaline solution. The ventricle was quickly brought to a standstill in the position of complete relaxation. The effect of neither acid nor alkali is permanent; in either case artificial blood solution is able, subsequently, to cause contraction differing in no way from the normal. The actions of the acid and alkaline solutions are not merely opposite, they are actually antagonistic. If, by means of an acid solution, the beats have been lowered in force, they are quickly restored to the normal by an alkaline solution, and *vice versâ*. Dr. Gaskell has further ascertained that certain poisons act on the heart as does the alkali, while others act as acids. The antiarin (the poison of the upas tree) and digitalin act as do alkalies, causing an increased tone, irrespective of contractions—a tone which ultimately renders contractions impossible. Muscarin, on the other hand, acts as the acid. Pilocarpin also acts like the acid, while atropin acts in the same manner as the askali.

Further investigations have brought out the important fact that alkaline and acid solutions act upon the muscles of the smaller arteries in the same way as

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upon the cardiac muscle. The observations were made upon the mylo-hyoid muscle of the frog, after pithing, and division of the mylo-hyoid nerve, to eliminate all nervous influence. Solutions were sent through the vessels at a constant pressure, and provision made that the modification in the heart's action should have no effect on the pressure in the vessels. The lactic acid solution produced always an enlargement in the calibre of the arteries, and the flow through them was proportionately more rapid. The alkaline solution caused invariably a diminution in size, usually to absolute closure, with a corresponding obstruction to the flow through the vessels. Moreover, the same antagonism of the two solutions was found to exist for the vessels as for the heart. Although lactic acid was employed in these experiments, it was ascertained that the effect of acetic acid was exactly the same.

Hitherto, as we have said, the condition of the heart and smaller bloodvessels has been regarded as dependent solely on the influences exerted through the vaso-motor nervous system. These experiments show that local influences, the nature of the fluid surrounding the muscular fibres, also affect their condition. Their tonicity is augmented by the increased alkalinity of the fluid, is diminished by its lessened alkalinity. Functional activity is everywhere attended with vascular dilatation, by the mechanism, it has been hitherto assumed, of the vaso-motor nerves. But if the state of the muscular tissue of the vessels may be modified so largely by the fluid around them, may not the products of the activity of the organ determine, by local action, the dilatation of the vessels? Dr. Gaskell ingeniously argues that it is *à priori* probable that it may be so, from the structure of the vessels, the muscular fibres lying immediately *outside* the impermeable elastic lamina. It is in the highest degree probable that the lymph fluid of muscles is rendered less alkaline by the chemical products which result from muscular action. In the brain and pancreas the same conclusion is also probable from recent researches, and these facts suggest that it is true of all tissues. According to some investigations by Klug, oxygen strengthens, carbonic acid lowers, the cardiac pulsations, and alkalinity promotes oxidation. It is probable, then, that throughout the whole vascular system normal tone and rhythmical action are dependent in part upon the due oxygenation and alkalinity of the fluid supplied to its muscular tissues, while, on the other hand, the tonicity cannot be maintained or the rhythmical action continued, when that fluid is overcharged with such products of tissue metamorphosis as lactic and carbonic acid.

Besides its visible pulsations, the muscular tissue of the heart varies much in its condition of tone, as these observations demonstrate. If in the normal state the relaxation between the separate contractions is nearly complete, and the cavity closed for a definite time at each contraction, then with a greater tonicity the period of closure would be longer, the intermediate dilatation would be less complete. With less tone, the cavity would be closed for a shorter time, or incompletely closed at each contraction, and the diastolic relaxation greater. To the latter condition, long recognized theoretically in cardiac pathology, Beau many years ago gave the inexact term of "asystolie." When the ventricle of the frog is tied, atony is produced; the alkaline blood solution gradually improves its tonicity, as tracings show, until spontaneous pulsation result.

It is unnecessary to point out how immediate and important is the application of these facts to the physiology and pathology of the whole vascular system. It is clear that many phenomena now believed to be produced by the agency of the nervous system may be really independent of it. The vaso-motor nerves exert their influence, profound and extensive, but the tissue elements which they control have also a power of independent action. To determine the relative potency and place of the two modes of vaso-muscular influence, and the relation between

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their excitants, must be the next steps in the solution of the problems opened up by these researches. The facts already ascertained are of the highest importance and suggestiveness, and, elicited as they are with great care and by a most difficult investigation, their discovery does the highest credit to English physiology.—*Lancet*, Sept. 18, 1880.

Materia Medica and Therapeutics.

Recent Researches on the Action of Drugs.

The problem of the antagonism of poisons, which seems destined, for a long time, to be a *quæstio vexata*, has been re-examined by Mr. J. N. LANGLEY, at Cambridge, in reference to certain statements of Rossbach. The latter affirms that when a tissue has been paralyzed by any one alkaloid it can neither be stimulated nor restored to its normal condition by any other alkaloid. In the submaxillary gland, for instance, if the chorda tympani nerve has been paralyzed by atropin, no amount of physostygmin or pilocarpin can, according to him, make it again irritable. He holds that in glands there are two parts to be considered, the nervous and the glandular part, that small doses of alkaloids affect only the nervous part, while large doses affect the glandular part in addition. After atropin has paralyzed the chorda tympani, pilocarpin may still affect the gland cells, but they cannot be affected by it if the dose of atropin was sufficiently large to affect the glandular cells also. Langley has ascertained certain facts which militate strongly against this view. If a small quantity of atropin be injected, the secretion, which is arrested, can be restored by pilocarpin. If a stronger dose of atropin is injected, the same dose of pilocarpin will no longer restore the secretion. Hence, according to Rossbach, this large dose of atropin has affected the gland cells as well as the nerve. But Langley finds that a still larger dose of pilocarpin will again restore the secretion. Thus, whether the larger dose of atropin acts on the cells or not, the pilocarpin must have been antagonistic to it.

Certain recent researches into the effect of large doses of strychnia have brought to light some most remarkable facts. In poisoning by this agent the convulsions and toxic action are remarkably lessened by artificial respiration. This was first shown by Rosenthal, who asserted that double the ordinarily fatal dose was necessary, under these circumstances, to cause death. Experiments which, in the main, confirm these statements have been made by Leube, Pauschinger, and Buchheim. M. RICHET, however, has recently informed the Académie des Sciences of the startling fact that when artificial respiration is maintained, a dose of strychnine 100 times that which is usually fatal may be administered without causing immediate death, and that the effects are altogether different from those which result from ordinary doses. The quantity of strychnia which is fatal to a dog of ordinary size is two or three milligrammes. If one centigramme is injected beneath the skin, or into the saphenous vein, of a dog, in the trachea of which a canula has been placed, the animal is seized in about a quarter of a minute with a violent convulsive attack, which would be fatal were it not for artificial respiration. Under the latter, however, the attack ceases in a few seconds, and the heart, after a period of irregular action, resumes its normal pulsations. Still larger doses of strychnine can be thus injected without causing the death of the animal. The toxic phenomena vary according to the dose injected. There is first a tetanic period, and later a convulsive stage characterized by violent, incessant, spasmodic contractions of nearly all the muscles. A little later, when the quantity of strychnine injected exceeds one centigramme per

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kilogramme of body weight (say one decigramme, a grain and a half, for an average-sized dog), a stage occurs which may be termed choreic, marked by violent rhythmical shocks, recurring at intervals of three or four seconds, and separated by periods of almost complete resolution. When the dose exceeds four centigrammes per kilogramme of body weight (say half a gramme, or seven grains, to a medium-sized dog), the choreic shocks do not occur; there is a final stage of complete resolution, when reflex action is abolished, spontaneous respiratory movements have ceased, and the heart contracts with frequency but regularity. The pupil, dilated at the onset, becomes strongly contracted. Arterial blood pressure, raised at the commencement of the poisoning, gradually falls, and the rectal temperature varies correspondingly, rising during the convulsions to 105° or 106° F., to fall to 96° during the period of resolution. Dogs and rabbits, to which these large doses have been given, may be kept alive four or more hours by artificial respiration. If the latter is interrupted for a few seconds, say for half a minute, the heart stops, and the animal is dead. Loss of blood, even of a small quantity, will also cause death. In order to insure success in these experiments, the strychnine has to be injected with a certain slowness, an hour being given for the injection of half a gramme (seven grains). The artificial respiration must be vigorous, and success is more readily obtained with rabbits and small dogs than with larger dogs. If instead of these large doses, very small quantities are employed, say one milligramme per kilogramme of body weight, death occurs rapidly by syncope. The cardiac failure is not at first fatal, but after three or four attacks the animal dies. When the dose injected is fifty times as much these syncopal attacks do not occur, and it can then be ascertained that the pneumogastric has scarcely any action upon the heart. The muscles preserve their normal irritability. The action of the motor nerve is lessened, but is not abolished. Thus the complete absence of spontaneous movements is to be ascribed to the effect of the strychnia upon the spinal cord, rather than to the loss of the functions of the motor nerves, or of their terminations. The animal is in a condition analogous to that produced by chloral or alcohol. We cannot, from these experiments, derive much hope of dealing more successfully with strychnine-poisoning. As the poison is eliminated, and its dose thus lessened, its effect upon the heart increases, and death results from syncope. But in cases in which it is important to prolong life for a few hours, this might be effected by prompt tracheotomy and vigorous artificial respiration.

Bromide of ethyl has been found by M. RABUTEAU to be an efficient internal remedy, chiefly as a substitute for chloroform, over which, however, it does not appear to possess special advantages. Given by the stomach, it was found to relieve gastric pain, without affecting the appetite. Inhalations readily relieve convulsive cough, and, introduced on cotton-wool into the external meatus, it relieves the pain of otalgia without causing any irritation. Claude Bernard showed that the vapour of chloroform and of ordinary ether hinder the germination of seeds, and M. Rabuteau has found that it is equally true of bromide of ethyl and of bromide of amyl. He finds also that all the ethers have the same effect. The experiments were made with cress seed. But the property of germination is merely restrained. Seeds kept for thirty-seven days exposed to the vapour of bromide of ethyl or bromide of amyl, germinated, when placed under proper conditions, in two days. The question then presents itself, Have these substances a similar action upon plants which are in full progress of growth? Growing cress was exposed for two hours to an atmosphere saturated with vapour of bromide of ethyl; it then appeared feeble, the leaves hanging down, and it continued in this condition for a day or two, and then revived, but exhibited considerable retardation in its growth compared with other plants of the same

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age. The leaves of heliotrope become brown, and die in the course of two hours. Acetate of ethyl is somewhat less powerful. Cress lives after it has been exposed to the vapour for three hours, but does not survive an exposure of six hours. Heliotropes are only killed by an exposure of three or four hours. The action of acetate of ethyl is also correspondingly less active in animals.

The effect of salicylic acid on muscular contractility has been studied by M. LIVON. Frogs poisoned by this substance present tetanic phenomena. Tracings obtained from the contracting muscles show that the salicylic acid causes an increase of excitability, followed by a considerable diminution and by an irregularity in the latent period. The tetanus which occurs may present two forms. One resembles closely that which results from electrical stimulation, and a second, altogether different, which presents a rhythmical character. In the latter the muscle is in the condition which has been termed "contracture," which continues until the muscle is exhausted, and will no longer respond to faradization of the sciatic nerve. This exhaustion is apparently not due to any effect of the drug upon the muscles; its action seems to be solely upon the nerve centres. The phenomena of the rhythmical tetanus lead M. Livon to believe that the rhythmical action of the heart is not due to any peculiarity in its muscular structure, but solely to its different mode of stimulation.

The inutility and even harmfulness of salicylate of soda in typhoid fever was well established, both in this country and in Germany, soon after the introduction of the drug. Objections to its use in this disease will not be lessened by a recommendation of it recently made by M. Hallopeau, since he had three deaths in twenty cases. M. Labbé has tried it in erysipelas and found it useless.

Sulphocyanide of potassium has been regarded as a "muscular poison," but this opinion is opposed by some experiments of Dr. J. V. LABORDE, the results of which have been described in a series of articles in the *Gazette Médicale de Paris*. He first ascertained that a relative tolerance could be established when the dose does not exceed a gramme; and then, by almost daily administration, he kept an animal under its influence for more than six months. The general health was but little disturbed until the end of the fourth month, when considerable emaciation occurred, and little food was taken. The condition of muscular contractility examined in the thigh or leg at different periods, never presented the least alteration appreciable by any ordinary means of investigation. The cardiac pulsations lessened notably in force and number in accordance with the depression of the nutritive functions. The animal appeared, however, to be in no danger of death, when it suddenly succumbed to a comparatively trivial operation, the intravenous injection of water. From this and many other experiments M. Laborde concludes that the muscular contractility is not primarily or directly affected by the sulphocyanide of potassium.

Euonymin is a drug which, although of some previous repute in America, was introduced to the profession in England mainly by Dr. Rutherford's investigation into its power as a cholagogue. It has been little employed in medicine, but a case in which pseudo-membranous colitis was treated by it successfully has been published by M. BLONDEAU. The case had resisted many courses of treatment, but disappeared in six days on five centigrammes of euonymin night and morning.—*Lancet*, Oct. 2, 1880.

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Effects of Salicylic Acid on the Temperature.

Prof. DEPLATZ, of Lille, in a paper laid before the Académie de Médecine (*Bull. de l'Académie*, Sept. 7), arrives at these conclusions: 1. Salicylic acid, administered in sufficient doses to the subjects of fever, always has the effect of

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temporarily reducing the temperature. 2. This temporary reduction may be maintained and increased by the administration of new doses, and by aid of this agent we are enabled to moderate at will the temperature of the sick. 3. Doses of the acid hitherto considered as poisonous may be exceeded without danger, patients being able to take for several days in succession eight, ten, or twelve grammes. 4. The rectum is the best channel for the introduction of the acid, and each enema should not contain more than two grammes. These conclusions are based on five cases of typhoid, one of variola, one of puerperal peritonitis, and several of phthisis. They are also supported by experiments on animals.—*Med. Times and Gazette*, Sept. 25, 1880.

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Homatropin Hydrobromate as a Mydriatic.

Dr. HENRY S. SCHELL, Surgeon to Wills Hospital, has recently been making some observations upon homatropin hydrobromate as a mydriatic, from which the following conclusions appear to be justified:—

1. Homatropin hydrobromate is not well adapted to the treatment of inflammatory or traumatic affections of the eye, on account of the conjunctival irritation it produces.

2. It is especially adapted to the production of that temporary dilatation of the pupil and paralysis of the ciliary muscle which is so often required in examining the condition of the refraction.

3. The best solution to use is one containing sixteen grains to the fluidounce of distilled water. From one to five drops of such a solution may be required to produce the desired effect, according to the strength and activity of the ciliary muscle.

4. Under the influence of a full dose the pupil attains its maximum dilatation in about twenty minutes.

5. With a full dose the accommodation begins to fail in about twenty minutes, and is usually totally suppressed in a half hour, although exceptional cases may require an hour. This total suppression lasts about three hours; the accommodation then gradually recovers itself, and is fully in action again at the end of from ten to thirty hours from the time of the last instillation.

6. The local action of the mydriatic is not accompanied by any unpleasant effects upon the general system.—*Philadelphia Med. Times*, Oct. 9, 1880.

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On the Application of Iodoform in Gynæcological Diseases.

Dr. MARTIN, of Berlin, communicates a paper to the *Centralblatt für Gynäkologie* (No. 14, 1880), in which he gives the results of a series of clinical experiments on the use of iodoform in various gynæcological affections. In the outset, he refers to the recommendations of iodoform made by Greenhalgh, De Marquay, and Völker, the former of whom was the first to recommend its employment in cancer of the cervix, whilst the latter praised its favourable effects in overcoming the pain and the distressing odour of the secretions in this disease. Next he mentions its employment by Kurtz as an absorbent in abdominal tumours. He then goes on to mention the paper of Kisch in No. 52 *Berlin. Klinisch-Wochenschrift*, in which he publishes the results of the local application of iodoform in over fifty gynæcological cases. Kisch had maintained that in these cases he had found iodoform an extremely active medicine, powerfully favouring the resorption of exudations, exerting a favourable alterative action upon the secretion of the diseased mucosa, and possessing an essentially lowering action on the exalted sensibility of the parts. Kisch employed a solution of one part of iodoform to ten of glycerine, with six drops of oil of peppermint well shaken up. A plug of

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cotton-wool is steeped in this solution and then applied to the vaginal portion. Some of the solution also was rubbed into the lower part of the abdomen. He affirms that it was especially useful in old cases of chronic metritis. In these, diminution of the hyperplastic swelling, healing of granulations, and arrest of the discharges and neuralgic troubles, accompanied its use. Further, in a few days unmistakable success followed its employment in chronic endometritis, and in papillary and follicular ulcers of the os. He also found it useful in chronic inflammatory affections of the pelvic peritoneum and pelvic connective tissue. In a later paper Kurtz has recorded his experience with it in the treatment of one hundred cases of chronic metritis, cervical ulceration, perimetritis, and parametritis; and claims for it valuable qualities as a sedative to pain and as a prompt agent in favouring the cure of chronic metritis, cervical ulceration, and stimulating the resorption of perimetric exudations. The author then proceeds to give the results of his own observations upon iodoform, which are by no means particularly favourable to the drug. The most satisfactory results were afforded by the application of iodoform in neuralgias at the climacteric period. The pains were distinctly lessened by external application only. In two cases they were completely cured, but it was only used in seven in all of such cases. It was also used in three cases of eczema vulvæ. Martin found it beneficial in cases of carcinoma of the cervix, especially as favouring granulation after operation, and preventing pain. He also found some advantage in cases of adhesive chronic kolpitis, and in kolpitis and endometritis of the neck during pregnancy. In eighteen cases of chronic endometritis there was no observable advantage from the use of the drug. In thirty-nine cases of chronic metritis, with unilateral parametritis or with perimetritis, real benefit followed the use of iodoform for a time. The benefit, however, was only temporary. Similar results followed its application in thirty-one cases of chronic perimetritis and parametritis. The author, in conclusion, regards iodoform as an addition to our gynæcological pharmacopœia, but considers that, so far as his experience leads him, its value ought not to be unduly estimated. The preparation he employs is composed of lard and vaseline mixed, with the addition of two or three drops of peppermint-oil, or some balsam of Peru. In that way the disagreeable smell is better corrected. In the case of some patients the use of the drug had to be given up on account of its disagreeable smell.—*Edinburgh Med. Journal*, Sept. 1880.

Medicine.

Salicylate of Soda in Typhoid Fever and Erysipelas.

At the last meeting of the Société Médicale des Hopitaux (*Gaz. Hebd.*, Aug. 20), Dr. HALLOPEAU read a paper on the above subject. In typhoid fever, he observed, two indications are pressing: to attack the infectious principle, the cause of the disease, and to combat the elevated temperature; and, in general, apyretic medicinal agents are also antizymotics. Liebermeister, of Basle, has treated a great number of cases by antipyretics, and, in place of a mean mortality of 15 per cent. in mild epidemics, he has obtained one of 11 per cent. He commenced with a gramme and a half of calomel, and with the use of cold baths according to Brand's method, and then gave from two to three grammes daily of sulphate of quinine, or from six to eight of the salicylate. He found the temperature rapidly became lower, and was maintained at between 38° and 39° C. Dr. Hallopeau, following this example, gave calomel the first day also, and then administered quinine and the salicylate alternately, only having recourse to the

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cold baths in great and menacing hyperpyrexia. Some observers have condemned the use of the salicylate after employing it in doses of ten, twelve, or even fifteen grammes per diem; but there is no proof that in smaller doses this salt acts at all mischievously. It should be given in doses of about two grammes a day, and never exceeding four grammes; and even then it should not be continued too long without interruption, and should be proscribed altogether when great dyspnœa is present, or a tendency to hemorrhage. It has been objected that the antipyretic effect of the salicylate is but slight, and even less than that of quinine; but all the thermal curves attached to Dr. Hallopeau's paper show a notable diminution of temperature after the administration of two grammes. He admits, however, that its action is fugacious, and may disappear at the end of two or three days; but then quinine may be administered, and the two agents alternated, avoiding thus an accumulation of the salicylate. In no case has he observed any ill effects produced upon the kidney; and if the salicylate be sufficiently diluted, neither ulceration of the pharynx and stomach nor diarrhœa will be caused. It has seemed in some cases to increase dyspnœa and the disposition to intestinal hemorrhage; and where there is a tendency to these conditions it should not be employed. It has been said that the diminution of the temperature has been the sole effect produced by this agent, without its exerting any influence on the course of the affection; but Dr. Hallopeau has found the disease less grave and of shorter duration than usual. In a series of twenty cases he has only met with three deaths, and in two of these not as a direct consequence of the disease; while in a second series of nine cases they all recovered.

Dr. Hallopeau has also given the salicylate internally, in doses of four grammes per diem, in erysipelas; and, basing his practice on the experiments of M. Bochefontaine, who has shown that this salt is absorbed by the skin and passes into the urine, he has also prescribed the application of compresses dipped in a solution of the salicylate (one in twenty). In an infant, eight months old, the subject of erysipelas of the leg from a slight erasure opposite the knee, after having employed compresses wetted with elder-flower water and sulphate of quinine, which were not tolerated, he obtained by means of the salicylate a rapid amelioration of the general symptoms, the arrest of the erysipelas which had invaded two-thirds of the thigh, and the cure of the little patient. In all the fourteen cases in which this substance was employed, the temperature, at the end of twelve, thirty-six, or at most forty-eight hours, had fallen to its normal height; and among the fourteen cases only one death occurred, and that in an old man who was also the subject of purulent pleurisy. Dr. Labbé stated that he also had employed the salicylate in erysipelas, but had not derived any advantage from it, even in large doses. In his opinion, the regular course of this disease, especially on the face, which had formerly led to its erroneous assimilation to eruptive fevers, entirely depends upon anatomical reasons, such as the disposition of the lymphatic network, or that of some of the cutaneous muscles of the face and neck. It lasts for a week on the face, and longer when it gains the trunk; but the use of the salicylate does not modify its course. In typhoid fever, Dr. Labbé gives enemata with three or four grammes of this substance, which always produce a marked sedative effect and sleep, while disinfecting the stools. Dr. Hallopeau replied that he also employed the salicylate locally in erysipelas, and in six of his fourteen cases, he obtained evident amelioration in twenty-four hours. The cases of erysipelas of the face so treated by him did not last a week.—*Med. Times and Gazette*, Sept. 4, 1880.

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Local Treatment of Smallpox Eruption with Carbolic Acid.

Dr. SCHWIMMER, in the *Deutsches Archiv*, describes his method of applying Lister's carbolic acid paste, in smallpox, with the view of preventing pitting. The paste (acidi carbolici 4.0—10.0; olei olivæ, 40.0; cretæ trit. alb., 60.0) is applied to the face upon a linen mask, with openings for nose, mouth, and eyes. Strips of linen suffice for the arms and hands. These applications are left undisturbed for twelve hours, when fresh ones can be substituted. Suppuration is greatly shortened and the intensity diminished. While in parts without treatment the stage of desiccation appeared between the thirteenth and fifteenth day, on the face it set in by the ninth to eleventh day. There was no excessive suppuration upon the face. Upon the commencement of desiccation, the mask was usually removed. Ten to fourteen days after complete desiccation, the skin of the face was free from all traces of the disease; or, at the most, spots of pigment were visible that gradually disappeared.—*London Med. Record*, Aug. 15, 1880.

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Break-bone Fever in Charleston.

Dr. F. P. PORCHER furnishes to the *National Board of Health Bulletin*, Sept. 25, 1880, the following account of the mild epidemic of break-bone fever which prevailed during the past summer at Charleston:—

It began, it appears, in the extreme northwestern portion of the city, above Calhoun, near Line and Columbus streets, in what was formerly called the "Neck." Afterwards it seemed to progress into the lower or oldest part, and there is every indication that it is now diminishing.

The earth had been disturbed in the paving of King Street, an extensive thoroughfare running north and south the entire length of the city; and the special section of the city where the first cases were noticed was not in as good a condition as others, being near the marshes and new streets having been opened there; but, though we were at first inclined to search for the causes of disease in these conditions, the simultaneous appearance of the fever in the West, and as we learn in Savannah and Augusta, must exclude such a supposition, and refer it to general and wide-prevailing atmospheric influences.

Besides our own experience, which has been limited on account of temporary absence, we have made diligent inquiries of many persons, of physicians as well as the laity, and learn the following particulars, which we present in default of a more complete report, which will doubtless be made in future.

The symptoms vary exceedingly—some being present and some absent—as follows: The disease generally begins with a feeling of coldness, or by a chill, followed by fever—this, with a temperature ranging from 100° to 105°, lasts generally from 24 to 48 hours, occasionally extending to four or five days, and even in rare cases to seven. Relapses occasional, specially in those who have gone out too early. Headache frequent, generally frontal, from the beginning. Miliary eruptions, sometimes elevated and red, like measles, and the occasional presence of *sudamina over the face, neck, and body;* sometimes the eruptions were confined to the body, and endured for days after recovery. We have seen some examples of slight desquamation—furfurations or branny in character. Sweating profuse in many persons, though *often absent*. Hence, some physicians are inclined to consider the disease to be *suette miliare* of a mild form. "Break-bone" is the best name, because pain in the bones and limbs is the most constant symptom. There is often great restlessness during the fever, and in some a feeling of tightness or congestion about the throat, with bleeding in a few cases known to us. Catarrhal symptoms are rarely present, although cough has occasionally

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existed. Bleeding from the nose not unusual in children, and also increase in the menstrual molimen has been observed. Pain in the back and limbs markedly present, but no decided swelling of joints, no carbuncular enlargements or boils, as in the epidemic of dengue, of 40 years since, or in that of "break-bone," which followed some years subsequently. Weakness and prostration have been very decided, but not nearly to such an extent as in previous epidemics. Some of the physicians consider that there has been a tendency to hepatic torpor or congestion, of no great severity however. We have heard of no cases of decided jaundice. Nausea and vomiting seldom occur.

The disease does not affect all the members of a household, oftentimes only one or two being seized, though we have known six to be taken in one house; in this respect differing from the dengue, as described by Prof. Dickson, and from the epidemic seen by us some thirty years since. Then 10,000 were down; no one was well enough or strong enough to help his neighbour, and one had to learn to walk over again.

It is difficult to calculate the number who have suffered, as very many have not employed a physician; from 2000 to 3000, perhaps, approximates the number.

Very little active treatment has been used; as far as we can learn, as follows: A mild laxative, saline or mercurial, hot teas, nitre, pediluvia, sinapisms, etc., and quinine during and after the attack, upon theoretical grounds, with occasionally mild stimulants. Several persons have recovered with no treatment whatever.

It has prevailed among both races, perhaps equally, and *not a single death is ascribed to this disease* as far as we can learn. The only disadvantage which accrues to those who take it is the time lost and the temporary pain and weakness from which they suffer.

Persons who were in the city and who visited the country had mild attacks. We know of four such; one of these had reached Asheville, N. C., where we saw him. Cases of the fever have occurred in Summerville, thirty miles off, on the line of the South Carolina Railroad, among persons who had never visited the city; others sickened there who had paid flying visits, remaining a part of a day only.

How different all this is from yellow fever, in which a fever of far less apparent intensity produces great changes in the blood and tissues, black vomit, albuminuria, and frequent deaths.

Action of Benzoic Acid in Rheumatic Polyarthritis.

Prof. SENATOR has previously called attention to the excellent results which follow the treatment of rheumatic arthritis with benzoic acid. He now brings forward a larger number of cases which confirm his original statements in regard to the action of this drug. In the earlier investigations, which were made in the beginning of the year 1877, the benzoic acid was employed not only in acute cases of rheumatic arthritis, but also in subacute cases without fever as well as in chronic ones; in the latter class, however, no results were obtained. Twenty-two cases out of a total of forty-six were treated solely by means of benzoic acid or sodium benzoate, which was given to the extent of 15 grams a day. The patients were relieved, in one case after two days of the treatment, in twenty cases after 3.7 days, and in one case, which was treated from the very commencement of the attack with small doses, after eleven days. No relapses or complications were observed in any case. In these cases it was clear that the favourable result was actually due to the benzoic acid, and this was further confirmed by the fact that in a second group of cases, four in number, the affection which had been

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futilely treated by salicylic acid, was really or apparently cured. In a third group, consisting of six cases, the author found that benzoic acid afforded no relief, whilst salicylic acid was of use. From these data, which are supplemented by fourteen cases in which salicylic and benzoic acids were both employed, Professor Senator concludes that benzoic acid exerts a distinctly favourable action in rheumatic polyarthritis, though it scarcely rivals salicylic acid. Benzoic acid possesses, however, the advantage that it may be given in very large doses. The author therefore recommends that the remedy, or its sodium compounds, be used in those cases in which salicylic acid has failed, and that, if necessary, it be administered in large doses.—*Practitioner*, Sept., 1880, from Frerichs's and Leyden's *Zeitsch. f. Klin. med.* 1, p. 243.

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The Pathology of Epilepsy.

The subject of epilepsy appears to be, and in reality is, one of the most difficult that can be met with in the whole range of medicine. Though brought face to face with it in his daily life, the practitioner, as a rule, gives up all attempt to grapple with the problems connected with its pathology. It seems hopeless to try to analyze the strange phenomena which make up the "fit," with which every one is familiar; and his knowledge of the subject usually ends, as it began, by a recognition of the few obvious facts patent to all who are brought into contact with cases of this disease. To pass from this elementary stage to a stage worthy of the name of scientific knowledge, a great leap is necessary—so great a leap, indeed, that until recently few attempts had been made to bridge the chasm; and such as were made, resembled leaps in the dark, guesses at the unknown, rather than the result of the true inductive processes. A few of the grosser features of the intenser kinds of fits were seized upon in the endeavour to elucidate the nature of the fits; but these, though the most obvious, were by no means the most important phenomena present, and their very intensity increased the difficulty of forming a correct notion of the pathological processes which they represented. As time went on, an observer here and there began to analyze more fully the nature of these fits, and faint gleams of light were thrown into some dark recesses of the disease. The onward progress of knowledge was, however, slow and uncertain until Hughlings-Jackson began to make his observations on the slighter forms of fits, and to notice the less obvious characters presented by them. For years he worked at the subject, until he was able to throw a flood of light on the whole question, and to open up vistas, which are now calling for exploration at the hands of those who are devoting their studies in the direction of nervous diseases.

One of the very best contributions that have hitherto been made to the study of epilepsy—we may, indeed, say the best *résumé* that has yet appeared of the views of those who form the vanguard of the neuro-pathologists—is to be found in the three Gulstonian Lectures recently delivered by Dr. Gowers before the Royal College of Physicians. Dr. Gowers has had exceptional opportunities for becoming acquainted with the disease in all its protean forms, and he was able to base his lectures upon the careful personal records of no less than fourteen hundred and fifty cases that had come under his own notice. In dealing with these cases he chiefly adopted the numerical method of analysis, but he also availed himself of the method which has been of such great service in the hands of Dr. Hughlings-Jackson—that, namely, of analyzing carefully the symptoms present in single cases, and endeavouring, by tracing them down to their source, to form some idea of their real significance. The numerical method has been already very largely employed in connection with epilepsy, and the results arrived at by its help, though they have done much to elucidate the clinical history and the prognosis of

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the disease, have afforded but scanty aid in the explanation of its pathology. Although, therefore, there is much interesting information in those parts of the lectures which rest upon the percentage-frequency of certain conditions and certain symptoms in epileptic patients, it is in those portions in which Dr. Gowers deals with the significance of individual phenomena that we must seek for the more important additions to our knowledge of epilepsy. Some of those who are accustomed to employ the scalpel and the microscope only in their search after the ultimate causation of disease, may say that there is too much of the hypothetical element in the explanations of the pathology of epilepsy offered by Hughlings-Jackson, Gowers, and their school. To these it is only necessary to say that, so far as we are able to foresee, the microscope and the scalpel will afford us but little help in the investigation of epilepsy, and that the only way to arrive at an accurate knowledge of its pathology is to study its clinical features with the aid of physiology, rather than the post-mortem appearances with the aid of anatomy. This, in fact, it is which constitutes the chief difference between the so-called "functional" and the so-called "organic" diseases. In each case there is the physiological and the anatomical side of the disease; but in the one case the physiological side is the more easy of approach, while in the other the anatomical side lies so open for investigation, that it is to this that our chief attention is directed. As was remarked by Dr. Gowers in his first lecture, the convulsive disorders stand out pre-eminently amongst those which can only be studied by reasoning processes based upon accurate clinical observation.

Until quite recently it was almost universally held, in accordance with the teaching of Schroeder van der Kolk, that the seat of the primary lesion in epilepsy was to be found in a vaso-motor centre in the medulla oblongata, and that the fit was due to anæmia of the brain, resulting from the spasm in its vessels caused by some sudden morbid action in this centre. This is, indeed, the view still held by a very considerable number of authorities on the subject; and it is encouraged by the fact that there is a centre in the medulla, which, when experimentally irritated in animals, gives rise to universal convulsion. Universal convulsion is, however, very different from the multiform phenomena—mental, sensory, motor, and organic—which are met with, either separately, or grouped in an endless variety of ways, in epilepsy. The fact that nearly all the forms of action of which the brain is capable may be seen in fits, argues strongly against the hypothesis that epilepsy is due only to a lesion in an exceedingly circumscribed centre; whilst it points as strongly to the probability that the fits are due to some primary morbid condition of brain matter itself, in which case the characters of the fits would vary according as this primary morbid state is present generally throughout the brain substance, or is more or less accurately localized in different parts of the organ. It is scarcely necessary to add that the morbid state would, according to this hypothesis, affect the gray matter rather than the white, the function of the latter substance being merely that of a conductor—all the active power of the brain being seated in the former.

The next question that arises is this: Granted that epilepsy is due to some primary morbid action of gray matter, taking place either in the whole brain or in some portion of it only, what is the nature of this morbid action? The answer to this is fairly easy up to a certain point: The action is identical with that which takes place when the brain is performing its functions healthily; and the morbid nature of the action consists only of this, that it takes place in an irregular and uncontrollable manner. We may indeed borrow the celebrated definition of "dirt," that it is "matter in the wrong place,"—which, when applied to epilepsy, should read, "activity of brain at a wrong time." What the nature of this activity is, we are at present unable to say; nor is it easier to explain why it is thus set in

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motion without control. The first of these problems will be answered when the physiologists have fully determined the nature of "nerve-force;" the second will, probably, for a long time to come, afford matter for speculation to neurologists. A considerable portion of his last lecture was devoted by Dr. Gowers to the consideration of this question, and he elaborated a highly ingenious theory to explain the occurrence of fits; but this part of the subject can scarcely be considered ripe for discussion except amongst those who are devoting especial attention to the subject, and we therefore pass it over without further comment.

Dr. Hughlings-Jackson has defined epilepsy as "an irregular discharge of nerve-force occurring in any part of the gray matter of the brain or spinal cord." Taking the term in its widest sense, an "epileptic fit" may vary in intensity, from an involuntary twitching in one finger, or a sudden attack of tingling in one foot, up to those severe forms of the disease in which there is profound loss of consciousness and convulsion of every muscle of the body. This is the important fact to bear in mind in thinking over the pathology of the disease; and it will greatly facilitate the comprehension of this difficult subject, if it be thus, so to speak, reduced to its lowest terms. We believe that a very large number of medical men still look upon the expressions, "nervous discharge," "discharge of nerve-force," "discharging lesion," etc., as a mere jargon invented to conceal ignorance. It is possible that these terms may not be the clearest and most expressive that could be found; but if it be once thoroughly understood that they mean nothing more than the irregular action of some portion of the gray-matter of the brain, instead of being a jargon they will be found to contain the pith of the pathology of epilepsy so far as it is at present understood. In the detailed application of Hughlings-Jackson's definition to the various forms of fits, numerous and highly complex problems in physiology and psychology present themselves; but the first desideratum necessary for an intelligent study of the subject is to obtain a firm hold of the truth embodied in the definition, and to be able to apply it to the simpler phenomena of epileptic fits without difficulty. At present we fear the views held by the majority of medical men on the subject of the pathology of epilepsy are of a vague and hazy description. We know of nothing more likely to dispel this widespread darkness than a careful study of the Gulstonian Lectures of Dr. Gowers.—*Med. Times and Gaz.*, Sept. 4, 1880.

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Treatment of Diphtheria.

Dr. CALLAN, in the *Proceedings of the Finland Practitioners*, quoted in the *St. Petersburg Med. Woch.* for August 7, states that he has derived so much benefit from the external and internal use of the sesquichloride of iron that he regards it as much a specific for this disease as quinine is in intermittent fever. Locally, he applies one part of the liquor ferri sesquichlor. with one or two parts of water, morning and evening, by means of a thick, short-cut charpie pencil, rotating it against the pseudo-membrane, which after some hours almost always becomes detached, so that the bleeding mucous membrane becomes cauterized. The nose is syringed with a solution of half this strength, and the throat is gargled with milk. From ten to fifteen drops of the sesquichloride are taken in six ounces of water, in teaspoonful doses, every ten or fifteen minutes in the day, and every quarter or half an hour in the night. Cold milk is the best food. The treatment is very troublesome for the attendants, but it is so successful that Dr. Callan states that, since the year 1861, of more than 150 patients he has not lost one. The treatment, however, should be begun early and strongly persevered in. Usually about the second or third day the pulse becomes slower and fuller, and the sticky sweat, which generally accompanies diphtheria,

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diminishes, together with the febrile temperature. Upon an average, nine days have been required for the cure. When this is accomplished, the greatest care is still required, as sudden movement of the child may cause fainting or even death. [The employment of the perchloride of iron both locally and internally, in diphtheria, is nothing new, though Dr. Callan's energy of employment is perhaps new. Certainly his success is. We transcribe his statement because it is so positive; but it certainly seems strange that, as in Russia diphtheria is depopulating some regions, he has not taken more pains to make so certain a cure known. His own cases, he admits, were mild ones.]—*Med. Times and Gazette*, Sept. 4, 1880.

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The Treatment of Pleuritic Effusions.

A physician to a foreign hospital generally has the advantage over an English hospital physician in the number of beds at his disposal. If you want to study a certain class of disease, you are more likely to have the opportunity with a hundred beds than with twenty. Thus we doubt whether a member of any English medical staff could illustrate his remarks on pleuritic effusion by the results of 123 cases treated in his own wards, as Dr. GOLTDAMMER, of the Bethany Hospital, Berlin, does in a lecture delivered before the Berlin Medical Society (*Berlin Klin. Wochenschrift*, Nos. 19, 20, 1880). Of these 123 cases, which were operated on in all 200 times, 19 were purulent effusions, 49 were primary sero-fibrinous pleurisies, and 55 were secondary effusions in patients with phthisis, pneumothorax, typhoid fever, carcinoma, and tuberculosis of the pleura, heart disease, and nephritis. Passing over the cases of empyema for the present, we will speak first of the primary serous effusions. These Dr. Goltdammer divides into abundant, where one whole side of a chest is full of fluid, and moderate and small effusions. The former he invariably taps, not waiting for the onset of dyspnœa, but endeavouring to tap early enough to prevent it. The relief given is immense, and there is often no return of the fluid, especially when the tapping is done early. This was true of eight out of twenty-two such cases treated by him, while in nine others which were tapped in the second, third, and fourth month of their existence, there was a considerable re-accumulation. It is very exceptional, however, for the fluid to attain its former level. The general rule is, that a re-ascent amounting to the breadth of one or one and a half intercostal spaces is detected a few days after the tapping. Dr. Goltdammer takes no account of the presence of fever, not having been able to convince himself that it affects the result of the tapping in the least. It should be noted that he scarcely ever *aspirates* large serous pleuritic effusions, but evacuates them with a trocar guarded by a valve of goldbeater's skin; aspiration he reserves for small collections of fluid. The almost exclusive indication for its use in the latter is protracted absorption. He waits until about eight days after all fever has disappeared, and then, if the effusion shows no diminution, aspirates. Most of the cases of this category, twenty-seven in number, were operated on during the second month; they, as well as the forty-nine cases of extensive effusion, all recovered, and in not a single instance did the serous fluid become purulent. This happy result Dr. Goltdammer ascribes, no doubt correctly, to the care he takes to disinfect his instruments, and to avoid pressing the contents of the syringe in aspiration, back into the pleural cavity. He mentions two cases of secondary effusion where rapid septicæmia followed the tapping; in one of these it was certain that to remedy a partial stoppage of the needle the handle of the syringe had been pushed in, driving part of the fluid in the latter, contaminated by the old oil, etc., of the piston, which it is impossible to disinfect perfectly, into the pleura; in the other case the infection could not be proved,

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but no other rational explanation of the catastrophe could be found. Dr. Goltdammer observes that he is surprised that the conversion of serous into purulent exudations is not more often met with in practice, seeing how little care is taken by practitioners to use clean instruments. We cannot too strongly emphasize this remark. The great indication for tapping in the fifty-five cases of secondary effusion was dyspnœa, and relief was generally obtained. Some of the patients earnestly begged for the operation to be repeated, and Dr. Goltdammer did not notice that the repetition at all weakened them. The amount of albumen is very small in the comparatively trifling collections of fluid met with in secondary pleurisy. In two cases of phthisis a single aspiration caused complete disappearance of the effusion. In five cases of pneumothorax the fluid aspirated was serous, and not, as is generally the case, purulent. In two of these the lung completely expanded after the tapping. Dr. Goltdammer has also aspirated with success several cases of effusion secondary to hemorrhagic infarcts in the lungs. One point on which he lays great stress is, never to evacuate the whole of the fluid at once. In secondary effusions he does not withdraw more than from half a litre to one litre, and the onset of paroxysmal cough or tensive pains in the chest is always an indication to cease aspiration. In the 200 operations he has altogether performed he has only once had a case of collapse, and this recovered, and not a single case of sudden death. He therefore considers the dangers of tapping and aspiration much exaggerated.

The treatment of empyema is still one of the vexed questions of the day. Antiseptic surgery has done much to render success more certain; but the antiseptic dressing of an empyema and the insertion of a drainage-tube give trouble, and a simpler plan has been long a desideratum. The siphon trocar as used by Dr. Douglas Powell and others, is sufficiently simple, but is open to the objection that if the chest is washed out after drawing off the pus, the same tube being used for both operations, septic matter is liable to enter and infect the pleural cavity. Most of Dr. Goltdammer's cases were treated by incision under the spray and antiseptic dressing, resection of part of a rib being performed in several. The last case, however, to which he refers in his lecture was treated by a new method recommended by Dr. Kashimura, assistant to Professor Baelz, of Tokio, Japan (*Berl. Klin. Wochenschrift*, No. 3, 1880), and which is the simplest imaginable, consisting in puncturing and evacuating the pleural cavity, washing it out freely with an antiseptic liquid, and *then allowing the opening to close*. The instrument (figured by Dr. Kashimura) consists of a canula provided with a stopcock, which closes its outer end after the withdrawal of the trocar, and with two lateral openings to which India-rubber tubes are attached with spring clamps, so that either can be closed or opened at pleasure. Before tapping, these tubes are filled with thymol-water and clamped. When the instrument has been introduced, the stop-cock is closed, and one of the tubes, which dips into a vessel of thymol-water, is opened, and the pus allowed to escape. The first tube is then clamped, and the second, which communicates with an irrigator containing warm thymol-water, is opened, and the antiseptic allowed to enter the pleural cavity. It is then evacuated by the first tube, and the process is repeated until the wash-water returns uncoloured. The canula is then withdrawn and the opening closed. Of course the whole of the instrument is assumed to be thoroughly disinfected before use. The cases hitherto treated by this plan, though not numerous, are eminently satisfactory; all have recovered. Dr. Goltdammer tapped a woman aged forty-one, in a state of great prostration, with an empyema of a month's standing, and removed 700 to 800 cubic centimetres of pus. About two litres of thymol-water were used to wash out the cavity. She was operated on, on February 19, 1880; *eight* days afterwards all traces of the effusion had disappeared

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and there was no return of it later on. The patient, who had entered the hospital with extreme cyanosis, and with orthopnœa, ascites, extensive anasarca, and slight albuminuria, as well as an unresolved pneumonia of the right base, to which the empyema was secondary, had entirely recovered, even to the restoration of clear percussion and vesicular breathing over the whole right side, on April 10. It is needless to enlarge on such a result. A few years ago, however, we may remark in passing, it would have been considered miraculous. Now, thanks to the antiseptic method, whose beneficent effects are making themselves felt in every part of the field of surgery, we scarcely wonder at it. We recommend the special mode of its application above described to the attention and imitation of our readers.—*Med. Times and Gazette*, Sept. 4, 1880.

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Fœtal Endocarditis.

The recognition of fœtal endocarditis during intra-utarine life is a diagnostic achievement worthy of note. A girl aged seventeen was admitted into Professor Peter's ward at La Pitié near the end of her pregnancy. An active fœtus could be felt in the uterus. The double sound of the fœtal head could be heard in the usual situation, but instead of the customary *tic-tac*, the first sound was replaced by a blowing murmur, almost immediately succeeded by a sharp sound like the normal second sound, and this was followed by a brief silence. The series was repeated about 130 times a minute. At first the interne, M. H. BARTH (who records the case in *La France Médicale*), thought that the murmur was that described by Naegele as due to the compression of the umbilical cord, but its precise limitation to the area in which alone the sounds of the fœtal heart were heard, and the absence of any uterine contraction which could cause the compression of the cord, convinced him that the sounds must be due to a lesion of one of the cardiac orifices. The murmur was again heard next day, when the labour was actually commencing. The child was born dead, having apparently died during the last period of labour. The child was well-formed, and the organs were healthy, with the exception of the heart, which was enormously hypertrophied, and seemed alone almost to fill the thoracic cavity. It was nearly globular in form, the right half being much larger than the left. The valves on the left side of the heart, and those of the pulmonary artery, were healthy, but the tricuspid valve was the seat of a "plastic vegetative endocarditis," the free edge being thickened, covered with projections, and its surface being uneven. The chordæ tendineæ were shortened and thickened, maintaining the valves in contiguity to the walls of the ventricle, so that it was impossible for them to fulfil their normal function. The right ventricle was dilated and greatly hypertrophied.

The case has a practical lesson. The labour offered no difficulties to which the death of the child could be ascribed, and it was doubtless due to the cardiac lesion. In such a case, in which fœtal endocarditis has been diagnosed, the acceleration of the labour by all possible means is desirable, to afford the child a better chance of life. The mother, it may be noted, had never suffered from rheumatism, and presented, in her history, nothing to which the fœtal condition could be ascribed. Whether she had suffered from syphilis is not noted.—*Lancet*, Sept. 4, 1880.

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Parasitical Hæmoptysis.

Japan presents, apparently, a fruitful field to the pathologist. We lately chronicled the discovery of a new form of endemic fever by Professor BAELZ, of Tokio, and now, from the same observer, comes a description of a new form of hæmoptysis, of parasitical origin, the symptoms of a disease which Baelz pro-

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poses to call "gregarinosis pulmonum." The disease is not only undescribed, but it is apparently unknown even to the native practitioners. Its chief symptom is hæmoptysis. Individuals, who are otherwise healthy, cough up bloody sputa, either continuously or at intervals, for many years. The hemorrhage has no apparent connection with phthisis or any other discoverable lung affection. Beyond the cough and expectoration, no morbid symptom, objective or subjective, is to be detected, even after the disease has lasted ten years. The affection appears to be a common one, for Baelz has already met with nineteen cases, twelve in the last year, and it is probable that thousands of Japanese suffer from it. All the cases hitherto seen have been in men, and for the most part between the ages of fifteen and twenty-five years. It is met with throughout the whole of Japan, but seems to be somewhat more frequent in the south. The sputa have a characteristic dirty-red aspect, and are thin. The red colour depends solely upon blood. A specific parasite is always to be found in it. This is met with in two forms: (1) as yellowish-brown, ovoid bodies of .13 mm. long, and .07 mm. wide. They have a double contour from a translucent wall .02 mm. thick, which, in different positions, appears greenish or reddish, and at the larger end is a kind of cover, at which the cyst opens. The contents consist of delicate jelly-like material, in which are embedded three or five aggregations of smaller bodies. The latter consist (*a*) of spherules about twice the size of a white blood-corpuscle, colourless, with sharp outlines. Around these spherules, and more or less inclosing them, is (*b*) a coarsely granular material, scattered through the jelly, and in it molecular movements may often be seen. When the spherules have left the cyst, they show for a time the same movements, and then become invested with the granular substance, and become motionless. The larger ovoid bodies are clearly psorosperm cysts, and the young spherules seem to be psorosperms similar to those which Waldenburg and Eimer have found in the intestine and liver of the mouse and rabbit. Since these and other observers have ascertained that the bodies we call psorosperms are only a stage in the development of gregarinæ, Baelz proposes to call the disease gregarinosis pulmonum, and the parasite gregarina pulmonum, or, from its colour, gregarina fusca. No opportunity has apparently occurred for investigating the pathological anatomy of the disease.—*Lancet*, October 2, 1880.

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Pulmonary Syphilis.

Dr. Reginald E. Thompson, of London, has recently studied sixty well-marked cases of pulmonary syphilis which had occurred in his practice. In all the signs of pulmonary disease of a peculiar character were present; they were associated with symptoms of syphilitic cachexia, and were relieved by antisyphilitic remedies. The signs might be distinguished from those of other pulmonary diseases, and were sufficiently peculiar to establish the nature of the disease. Briefly, these physical signs were dulness of percussion, and a peculiar alveolar rustle (resembling the crumpling of thin paper), with bronchial respiration and bronchophony of varying degree. These signs were not to be classed under the signs of phthisis, and the pulmonary condition indicated by them was notable for an absence of signs indicating destruction of lung-tissue. There was marked dyspnœa occurring after exertion, especially in raising the body upstairs or uphill. Hæmoptysis of small amount was frequently present, and the expectoration was sometimes abundant. These characteristics of the disease were accompanied with thoracic tenderness and other evidence of syphilitic complications. The pathology of the disease was very obscure, inasmuch as the disease was very chronic, and seldom, if ever, fatal; only one necropsy having been made by the

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author, and in this case death was due to other causes. The morbid condition of the lungs in this case was given in detail.—*British Med. Journal*, Aug. 28, 1880.

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Syphilitic Disease of the Bloodvessels.

Dr. KARL HUBER, of Leipzig, relates the following case (*Virchow's Archiv*, Band 79, Heft. 3, 1880, p. 537). A woman, aged 22, had enjoyed good health until fourteen years old, when she suffered from scarlatina. In 1876, when she was twenty, she had an attack of left-sided pleurisy. On September 13, 1878, the patient was admitted into the hospital at Dresden with syphilitic ulcers of the genitals, psoriasis palmaris, mucous patches in the mouth, and other symptoms. She left the hospital on December 13, but was again under treatment in January for other syphilitic affections. On both occasions the symptoms disappeared under mercurial inunction. On February 8, 1879, the patient noticed that her urine was thick, and that her legs were swollen. On February 11, she was admitted into the Leipzig hospital, when there was considerable general œdema, and there were also signs of fluid in the thorax and abdomen. The œdema became slightly less under treatment, but soon returned, and remained more or less until death. The urine was always scanty, pale, and turbid, and contained a considerable quantity of albumen, as well as pus-corpuscles, and sometimes casts. Vomiting, diarrhœa, and prostration afterwards came on, and the patient eventually became comatose, and died on May 19th. The post-mortem examination revealed a general diseased condition of the bloodvessels, with wide-spread calcification, which was most marked in the arteries. The liver was lardaceous and fatty. The spleen, great intestine, mesenteric glands, and right kidney were lardaceous. There were pyelo-nephritis of the left kidney, and inflammation of the ureter; cystitis, ascites, and anasarca, with fluid in the thorax and pericardium; embola in the arteries of the lungs; thrombi in the inferior cava and right femoral vein; ulcers of the great intestine and larynx; cheesy deposits, and recent inflammatory infiltrations, with œdema of both lungs. The changes of the vascular system were more extensive in the arteries than in the veins, but all the arteries of the pia mater and brain, and the coronary arteries, were healthy. The other arteries, beginning at the aorta, and extending to the small arteries of the hands and feet, were more or less altered by whitish or yellow patches of thickening, and by calcification, some of the arteries of the extremities being converted into chalky tubes. The lumen of the arteries, in many places, was completely blocked, this blocking being due, in some instances, to the morbid condition of the vessel, in others to thrombosis as well. In the veins there were patches of thickening in the larger branches of the upper and lower extremities, but more in the latter than in the former. The portal veins, and several branches of the pulmonary artery, were also similarly affected. There was calcification, to a limited extent, in the middle-sized veins, but more extensive in the small veins of the extremities, especially of the lower extremities. Some of the smaller branches of the pulmonary arteries were calcified to a slight extent. In some remarks on the case, the author states that the extensive disease of the bloodvessels could not have been caused by age, nor were there any grounds for suspecting the influence of chronic alcoholism. In the absence of other causes to account for it, he considers the vascular change must be looked upon as due to syphilis, although differing widely from the changes hitherto regarded as syphilitic. Dr. Huber, however, admits the difficulty of accounting for the escape of the cerebral vessels, supposing his view to be the correct one.—*London Med. Record*, August 15, 1880.

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Obstinate Epistaxis dependent on Cirrhosis of the Liver.

M. GARNIER relates a case which he observed in Prof. Verneuil's service. A robust man was admitted on account of an epistaxis which had continued for two days, having been arrested from time to time by means of the plug. Prof. Verneuil plugged the nostrils before and behind, and, supposing that it might be a case of intermittent epistaxis, prescribed quinine. The hemorrhage persisted, and ergotine given internally and injected into the ala nasi proved of no use. Digitalis arrested the bleeding for two days, when a minute examination of the man having revealed the existence of cirrhosis of the liver, a large blister was applied over the hepatic region, and the epistaxis was definitely arrested.—*Med. Times and Gazette*, Sept. 4, 1880.

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On the Cause and Treatment of the Bad Odour sometimes associated with Excessive Sweating of the Feet.

Dr. GEORGE THIN has recently made a fruitful investigation of this subject, the report of which is published in the *British Medical Journal* for Sept. 18, 1880, and from which the following is abstracted:—

The patient who has afforded me the opportunity of investigating the cause of the smell is a young woman, aged 22, who has suffered from evil-smelling feet, with soreness of the heels, for several years. Her hands are usually moist, or even wet, but are always odourless. The smell from the feet is not constant, disappearing in dry bracing weather, and reappearing when the weather is moist and depressing.

The first experiment I made was to subject the soles of the stockings and boots to the action of an antiseptic solution. The success was complete, the odour being entirely banished. The antiseptic precautions having been soon neglected, the smell returned, and I took the opportunity of investigating its cause more minutely.

The sole of the stocking, a few hours after it was put on, was found to be quite wet; and a stocking, if worn for a whole day, was so extremely offensive that, when held close to the nostrils, its overpowering fetor was comparable to that of putrid blood. The inside of the boot was equally wet and offensive; but, at the very time that the stocking and boot smelt so strongly, the heel itself, exuding moisture profusely, had no disagreeable odour. The sole of the heel was reddened and tender, and macerated around the edge, like a washerwoman's palm.

The reaction of the moisture in the stocking and in the sole of the boot was alkaline, that of the moisture exuding from the skin of the sole of the heel faintly alkaline, whilst that of the perspiration of other parts of the body was acid.

The fluid from the sole of the heel was thus shown to be not pure sweat, the faintly alkaline reaction being doubtless due to the serous discharge accompanying the eczema set up by the local hyperidrosis.

The fluid in the sole of the stocking was found to be teeming with bacteria forms, the nature and development of which I have carefully investigated. These investigations have produced results of some scientific interest, which I have communicated to the Royal Society.[1] The rapid development of bacteria in the fluid which exudes from the soles is doubtless favoured by the alkaline reaction produced by the mixture of serous exudation with the sweat.

The treatment instituted in this case is as simple as it has been effective. The stockings are changed twice daily, and the stocking-feet are placed for some

[1] On Bacterium fœtidum: an organism associated with profuse sweating from the soles of the feet. Proceedings of the Royal Society, No. 205, 1880.)

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hours in a jar containing a saturated solution of boracic acid. They are then dried, and are fit for wear again if it be desired. The boracic acid effectually destroys the smell. But to kill the bacteria in the stocking is not enough. The leather in the bottom of the boot is wet and sodden, and smells as vilely as the stocking. This difficulty is got over by the use of cork soles. I directed my patient to get half a dozen, which she finds sufficient. A pair must only be worn one day unchanged; at night, they are placed in the boracic jar, and are put aside the next day to dry. If these directions be accurately carried out, the evil smell is perfectly destroyed.

The boracic acid solution is an excellent application to the painful skin in these cases. When the tender skin of the soles is washed with it, a sensation of coolness succeeds the feeling of heat and tension which are the usual accompaniments of the eczematous condition associated with the smell, and the skin becomes harder and loses its abnormal redness.

The bacteric fluid would seem to act as a direct irritant to the skin. My patient assures me that, if she wears stockings which have been dried without being disinfected, irritation is speedily felt; and that the cork soles, if worn a second day without having been purified, act in a similar way.

Surgery.

Case of Syphilis of the Conjunctiva.

Dr. JULES GALVANI, of Athens relates (*Gazette Hebdomadaire*, May 21, 1880) the case of a man, aged 40, who complained of trouble in his left eye, which had come on gradually. On examination, the eyelid was found to be swollen, and partially closed. The ocular conjunctiva was œdematous, and the cornea, with the exception of its central part, was hidden by the chemosis. The visible portion of the cornea was quite healthy. There was no watering of the eye, nor photophobia, but slight headache, worse at night, was complained of. No improvement in the eye occurred under scarification, quinine internally, etc.; and the pain in the head increased. The author now looked for signs of syphilis, and found a well marked syphilide on the face, breast, and arms, and enlarged lymphatic glands. Under mixed treatment, the local affections rapidly disappeared, and the patient regained his usual health.—*Lond. Med. Record*, Aug. 15, 1880.

Therapeutics of Strabismus.

M. BOUCHERON read a paper before the Academy of Medicine in Paris (*Le Progrès Médical*, July 10, 1880) on the therapeutics of strabismus, in regard to the cure of the affection by mydriatics without operation. Basing his argument on the physiological fact that accommodation for short distances is governed by the convergence of the eyes, M. Boucheron proposes to combat the excessive convergence of hypermetropic eyes, and the consequent convergent strabismus, by temporarily suppressing accommodation through paralysis of the mechanism of accommodation with atropin. This plan of treatment was brought before the Academy of Sciences in March, 1879, and the results which have obtained from it may be thus summed up. The *sine quâ non* of success is the intermittent character of the strabismus, since this indicates that the internal recti have not yet undergone that retraction and shortening which is a consequence of their habitually vicious position. The instillation of sulphate of atropin (3 centigrams to 10 grams of distilled water) should be made on the first appearance of the squint,

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before there is any alteration in the convergent muscles. Atropin should be dropped into both eyes, to such an extent as is required to paralyze the mechanism of accommodation in each. One or two drops of the solution recommended above dropped in morning and evening will be sufficient to produce the required effect. The atropin should be employed until the squint has disappeared when the child looks closely at anything. This treatment puts a hypermetropic squinting child into the same condition as one who is hypermetropic but does not squint. The length of time during which the atropin must be used, is therefore dependent upon the age of the child when the treatment was commenced, as well as upon the duration of the affection. The strabismus as a rule disappears in two or three weeks, but it exhibits a tendency to recur for several months. In the cases which have been observed the atropin causes no inconvenience, but if it is not well borne, it should be replaced by other mydriatics, as for example, duboisin. In some cases also, myotics, such as eserin, which render accommodation mechanism immovable by causing contraction of the ciliary muscle, may modify the relation which exists between accommodation and convergence to such an extent as to cause cessation of the strabismus. Mydriatics appear, however, to yield more certain results than do myotics. In nine cases of intermittent convergent strabismus occurring in children, in eight this method of treatment gave successful results.—*Practitioner*, Sept. 1880.

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A New Method of Iridectomy for Secondary Cataract.

M. GAYET, of Lyons, reminded his hearers at the late meeting of the French Association for the Advancement of Science, that, after extraction of the crystalline lens by operation or lesion, the iris became inflamed, infiltrated with plastic products, and formed as it were a kind of veil, which prevented the rays of light from reaching the retina. Ordinary iridectomy was impossible when the iris was thus indurated. On the other hand, it was known that the iris was not isolated, but belonged to the ciliary system, and was continuous with the processes. At this point it was thin, and tore when touched; but when it had become inflamed, and it adhered frequently to the neighbouring parts, the iris only tore by traction; this became transmitted to the ciliary organ; and it was well known that rough treatment of this region was liable to bring on sympathetic ophthalmia or other serious accidents. These considerations had long been known; and the importance of making an artificial pupil, and the difficulties of accomplishing it, had long been recognized. Cheselden's needle-method gave too small an aperture, and there was danger of wounding the crystalline lens and bringing on a fresh cataract. Von Gräfe's process gave a large opening in the pupil; it was a good plan, but frequently brought on a small hemorrhage, which showed that the ciliary body had been detached. M. Gayet had endeavoured to avoid that inconvenience. The knife being directed obliquely backwards, the blade forwards, he punctured the cornea and the iris; then turned the handle of the knife backwards, and carried it behind the iris. When he reached the other end of the anterior chamber, he directed the handle of the knife backwards, and brought the point outwards. The tension of the iris caused the knife to cut it in proportion as it advanced; the operation was then ended, as soon as the cornea was opened at two points. M. Gayet had performed this operation four times successfully, without difficulty or consecutive accidents.—*British Med. Journal*, Sept. 18, 1880.

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Removal of the Nervus Vagus with a Tumour of the Neck.

Prof. LUCKE, of Strasburg, relates (*Centralblatt für Chir.*, Sept. 4) the case of a woman, aged twenty-eight, who, having had a cancroid tumour removed

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from the right submaxillary region in 1878, presented herself in February, 1880, with a relapse, a tumour having formed in the cicatrix, and a large one under the right sterno-cleido-mastoid. On removing the latter, he found it intimately connected with the muscle. The carotid artery was easily separated from it in its whole length, but the jugular vein and nervus vagus were closely united to the tumour. The vein was tied close to the clavicle and above the tumour, and this last was removed with the vein and the nervus vagus attached to it. The bleeding was inconsiderable, and the portion of the nerve measured about twelve centimetres. No remarkable effects were produced on the respiration or pulse at the time of dividing the nerve. The nerve was found to be four times its natural thickness, but no effects were produced on the respiration during the healing of the wound. The patient presented herself in the July following, and manifested only an easily excitable respiration, which in other respects was normal. The right side of the face was in a hypertrophied condition.—*Med. Times and Gaz.*, Oct. 2, 1880.

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Treatment of Aortic Aneurism by Electro-Puncture.

Dr. DUJARDIN-BEAUMETZ records (*Bullet. Gén. de Thérap.*, July 15, 1880), two fresh cases of aneurism of the aorta which he has treated in this way, and in doing so presents an interesting account of his method of employing the electric current for this purpose, and a review of the results of electro-puncture in France generally. He uses only Gaiffe's battery. The needles he recommends have no head, and vary in thickness from five to seven-tenths of a millimetre. The conditions which determine the thickness of the needle to be employed are these: The length of time during which the current is to be passed, and the presence or absence of coagula in the sac. He has noticed that if a current traverses, for ten minutes, a needle less than five-tenths of a millimetre in diameter, there is a risk of breaking the instrument in extraction, and leaving its point in the aneurism. On the other hand, thin needles must be used at first, in order to avoid risk of hemorrhage, if the sac be found to be thin and pulsating strongly; subsequently, however, when repeated *séances* have led to the formation of coagula of greater or less thickness, needles of greater diameter should be introduced. The needles are of soft iron, and are covered with an insulating coating, except at their two ends. The wire connecting the needle with the battery is extremely thin, to permit the needle to oscillate slightly when in position in the sac. The needle is introduced by means of an apparatus designed for this purpose by Gaiffe; this enables the operator to regulate with precision the depth to which the needle is entered, saves much suffering on the part of the patient, and prevents the insulating coating from being rubbed off—an accident which favours caustic action and sloughing on passing the positive current. The needle should also be withdrawn by means of Gaiffe's retractor, an instrument which slowly twists it out. The author thinks the employment of these two little instruments of Gaiffe's of great importance; forceps should never be used instead, as their use involves the putting forth of more force, gives more pain, and is apt to break the needle, which is already thinned and weakened by the action of the current. The negative pole is represented by a large flat plate placed on the thigh; this plate is pierced by a number of holes, and covered with chamois leather; it is moistened when applied, to lessen the smarting which this pole always produces. The strength of the current may be accurately regulated by means of Gaiffe's galvanometer, the needle of which should point to about 54 on the scale. M. D. has been a strong advocate, ever since 1877, of the practice of having only the needles representing the positive pole in the aneurism. With regard to the num-

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ber of needles to be inserted, and the duration of the current, the author at first followed Ciniselli's practice of introducing four needles, and of passing a positive current through each for ten minutes, at two applications of five minutes each. Now he never uses more than two needles, and most often only one; a longer period of action might lead to deep corrosion of the needle, and cause it to break in extraction. (It is here suggested, as matter for further investigation, whether it might not be of service to pass the current for a longer time, in order to destroy completely that portion of the needle which is left unprotected by the insulating covering. Might not the particles of iron so detached act as centres round which coagulation of the blood in the aneurismal sac would go on? And, further, not only is the oxide of iron formed under these circumstances, but very probably also the chlorides; and these have a coagulant action on the blood.) While the author thus limits the number of needles, and the duration of the current, he advises the more frequent repetition of the operation—every eight to fifteen days; nevertheless, if the intervals are unduly shortened, pain and inflammation result. No anæsthetic, local or general, is used; the ether spray has an unfavorable influence on the coagulation of blood in the sac; chloroform also in such patients, often causes grave syncope, and this occurs the more readily as those suffering from aneurism usually suffer also from aortic insufficiency. Neither ice nor collodion is applied to the puncture holes after extraction of the needles.

M. D. has followed this method of operating for three years, and neither in his own cases, nor in those of his friends, has it been attended by any accident. In one case, however, the passing of the current caused fainting; but this patient had, for years, been subject to such attacks, and they occurred on very slight provocation, such as on being informed of the nature of his disease, and again, when a cardiographic tracing was being taken. The pulse of another patient, a man of excessively nervous temperament, fell markedly when the current was started; though it was thought better to interrupt the operation then, nothing of the kind occurred at subsequent *séances*.

The electric current acts as an irritant to the sac, producing inflammation of its walls, a curative endarteritis, determining the formation of adhesive coagula; it has also a directly coagulant action on the blood. The fact that the clot so produced is an adhesive one is strongly insisted on; the author has never observed anything of the nature of embolism, though he has operated twice on aneurisms of the innominate artery; in the first instance, there was temporary improvement, and in the second, operated on in February, 1879, the improvement then effected still continues. It has, nevertheless, been observed that the clot so formed may split up, and admit of the entrance of blood between its layers, in such a way that just as a complete cure seems to be established the aneurism suddenly shows signs of further extension; this is what occurred in a case recorded by M. Bucquoy.

Positive and lasting cure of aneurism by this means, if an instance of this kind has yet been observed, must of necessity be very rare, as we are able to attack the sac only at very few points on its whole extent—namely, those which in front or behind come into direct contact with the walls of the chest.

Dr. Petit has collected, in the *Dictionnaire Encyclopédique* (Article *Galvano-puncture*) no fewer than 114 cases of thoracic aneurism treated by electro-puncture. In 68 of these decided improvement was obtained, this improvement lasting at least a year in 35 instances, at least two years in 11 cases, and in 3 cases, three four, and five years respectively. Petit's statistics also show the great advantage of operating before the aneurism forms an obvious external swelling; improvement resulted in 73 per cent. of such cases while in those cases in which there was an external tumour, improvement was noted in only 51 per cent.

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M. D.'s experience, however, is all in favour of electrolysis in thoracic aneurism; even in instances in which the progress of the disease is not checked, it brings about marked amelioration of pain and of the feeling of throbbing.

In the first of the two new cases here recorded, the patient, a man of 53, had been confined to bed for nine months, suffering intolerable pain, which was kept in check only by subcutaneous injections of morphia, and these had to be increased in number every day; he had also had repeated arterial hæmoptyses. Here relief was so marked that after five *séances* he was able to get up and walk about with ease; pain was lessened to such a degree that he needed only half a syringeful of the morphia solution per day; the patient's general health underwent remarkable improvement; the swelling diminished notably in volume, became harder and firmer, while the movement of expansion of which it was the seat had greatly decreased.

In the second case the patient was robbed of sleep, had incessant cough, intense dyspnœa, great pain, could not rise from bed, while the tumour was increasing daily in size. After five operations he slept comfortably, his pains disappeared, he could rise and walk without difficulty, and was about to set out for the country well satisfied with the progress he had made.

The author concludes with the statement that electro-puncture is a most rational method of treatment for aneurisms of the aorta, and that if it is capable of effecting the cure of the disease only in very exceptional cases, it rarely fails to give substantial relief, even in conditions when every other mode of treatment is powerless, and that without the least danger, if the directions above laid down are scrupulously followed.—*Glasgow Medical Journal*, Sept. 1880.

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Results of Treatment of Aneurism of the Aorta by Galvano-Puncture.

M. L. H. PETIT, at the late meeting of the French Association for the Advancement of Science, read a paper based upon the study of 114 successful cases of this nature. In 111 cases, continuous currents were employed; in three cases, interrupted currents (Zdekauer, Piedagnel). Of the 114 cases, three were improved; 38 patients died without any notable amelioration; in three cases, there were no results; in four, they were doubtful; 39 patients survived less than a year, though much improved, and 10 from one to two years. The others survived from two to five years. In those patients who had been followed up long enough to have their deaths verified, rupture of the aneurismal sac was noted in about forty. After the disappearance of the immediate symptoms, or even immediately after the application, amelioration had shown itself in a certain number of cases by the diminution of the pains and pulsations, by increase in the consistency of the tumour, and its progressive diminution. This retrograde progress of the disease continued in twenty-four cases after a single application, and lasted from two to seventeen months; in others, three, four, and five applications had to be made; in others, even so many as eleven or even twelve; but that was because the improvement did not last long after each of them. The persons forming this category all died soon after the last application of galvano-puncture. Intrathoracic aneurisms had yielded thirty successful and seven unsuccessful cases. Those which had made their way outwards yielded thirty-six successful and one unsuccessful cases. It was, therefore, evident that, if the proportion of successes were greater when the aneurism was still contained in the thorax, good results might be hoped for in about half of the cases of aneurism of the aorta with external tumour. In 114 cases, 292 applications were made, which were thus classified as to the immediate results: improvement, 186; aggravation, 61; *status quo*, 14; not exactly indicated, 31. Improvement had specially been apparent in the

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relief of pain, the cessation of paroxysms of angina pectoris, the return of sleep, appetite, etc. Amongst the symptoms by which the aggravation had been characterized, augmentation of the size of the tumour, inflammation in the course of the needles, circumscribed sloughing, somewhat persistent hemorrhages, etc., had been noted. These accidents were observed especially when the needles were put into communication with the negative pole; on the contrary, they were very rare when the positive pole was employed. M. Petit, therefore, concluded, with McCall Anderson, Dujardin-Beaumetz, Teissier, etc., that positive galvano-puncture was the best proceeding hitherto employed.

M. POTAIN believed that the improvements which supervened after the employment of electrolysis in the treatment of aneurism was wrongly attributed to coagulation. In support of this opinion, he quoted the following fact: A man, attacked with an aneurism of the aorta with secondary tumour, was treated by M. Dujardin-Beaumetz. After two or three meetings, the patient was so much relieved, that he was able to leave the hospital; the secondary tumour had considerably diminished. But, after some time, the improvement disappeared, and the patient came back into M. Potain's wards, where he was treated with iodide of potassium and milk-diet. The improvement was as soon marked as after the treatment by electrolysis, and the patient again went home; but, as on the first occasion, the improvement was only temporary. He came back into hospital with pneumonia, of which he died. At the necropsy, a rather thick layer of fibrine was found lining the wall of the aneurism, but no clot. M. Potain likewise believed that it was very fortunate that there should be no clots in cases where the aneurismal sac communicated largely with the aorta, and where the clots might give rise to embolism.

M. ONIMUS maintained that the action of the current was of secondary importance, and that the coagulation of the blood was not the cause of the improvement; besides coagulation, the current exercised over the tissues a vital molecular action which was the true cause of improvement, the chemical action being very feeble. When a clot was found in an aneurism, it was wrong to ascribe it invariably to electrolysis, for clots were found in cases where this plan was not employed.

M. HEUROT, from a case which came under his notice, maintained that electrolytic action produced clots. In his case, the external tumour became solid and hard, and the pains were remarkably relieved.

M. OLLIER remarked that statistics had the great disadvantage of not being complete. Successes were published, but not failures. Statistics could not, therefore, be taken as a basis to ascertain how far recovery might be anticipated. On the other hand, M. Ollier did not believe that a complete and permanent cure had been observed. Finally, large clots had been supposed to occur after galvano-puncture, but these clots melted in some way, or they might be displaced by the needles. For these reasons, M. Ollier preferred milk-diet and iodide of potassium. Cases of spontaneous cure of external aneurism had been observed, and there was nothing to prove that the same thing did not occur in the aorta.

M. LEUDET remarked that all cases of failure had not been made known; for instance, he had operated on two patients whose cases had not been published.

M. HENROT pointed out that galvano-puncture was specially a palliative means; and, from this point of view, it was very valuable. It had been specially employed in desperate cases, when rupture of the sac was feared, or existence was unbearable to the patient on account of the acute anguish of dyspnœa, etc., and had always improved the patient's condition.

M. PETIT replied that, in the majority of the cases collected by him, coagulation of blood in the aneurismal sac, and diminution of the pulsation, *souffle*, etc.,

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had been noted. He was aware that, as a rule, statistics mostly recorded the successes, and that the failures were passed over in silence; but, his statistics being for the greater part compiled from the complete statistics of Ciniselli, Verardini, Duncan, Anderson, Althaus, and Dujardin-Beaumetz, he was scarcely open to that reproach. Complete cure had scarcely been observed in more than two or three cases, but improvement had lasted a long time in a large number of others.

M. DENUCÉ had recently treated two cases of aneurism with galvano-puncture. In the first case, there was aneurism of the aorta of two or three years' standing, with a large external secondary tumour; the skin was attenuated, and the pains very acute. A first application of Gaiffe's pile of ten or twelve elements, making use of the positive current applied with three needles during ten minutes, caused immediate cessation of the pains; the tumour became indurated, and the pulsations diminished. After some days, a tendency to dissolution of the clot, and return of the pains and pulsations, were observed. A second application with only two needles had the same result as the first. M. Denucé had made four applications, and the benefit rendered by galvano-puncture to the patient was very considerable. In the second case, an aneurism of the brachio-cephalic artery, as large as a child's fist, and prominent above the clavicle and sternum, was treated in the same way. But, after the first application, there was no induration of the tumour; on the contrary, it increased rapidly, and in five or six days, rupture of the aneurism was apprehended. M. Denucé then tied the common carotid and the subclavian arteries. The tumor then became more tense, and diminished twenty days afterwards. The wounds of the ligatures were cured, but the tumour remained *in statu quo*, and everything pointed to the probability of its speedy rupture.—*British Medical Journal*, Sept. 18, 1880.

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Multiple Thrombosis and Gangrene.

MM. LABBÉ and BRUCHET relate (*Union Méd.*, Aug. 26) a case occurring in Prof. Verneuil's service which they regard as probably unique. A miserable-looking little man, aged thirty-six, with no antecedents of syphilis or alcoholism, was admitted complaining of violent pains in all his extremities. These pains especially localized themselves in the right great toe, where there was a little sphacelus, and in the two median fingers, the pulse on both sides being somewhat feeble. Examination detected no visceral alterations nor any cause for what had occurred. Gangrene invaded the foot at five or six intervals, being accompanied by the most dreadful pain. Amputation of the leg was performed by means of the thermo-cautery, with antiseptic precautions, not a drop of blood being lost. Immediate relief followed. There was no fever, the general condition was improving, and the appetite had returned. On the eighth day there was a slight hæmoptysis; and next day there were signs of internal hemorrhage with sphacelus of the flaps, and death took place. The examination of the amputated limb had exhibited thrombosis of the two tibials, and the same lesions were now found in the tibials of the sound side, and in the two ulnars, and in one of the two radials, although no symptoms had announced these lesions. Not less than a litre of blood was found in the stomach, and near the small curvature were two round ulcers, one of which had opened into an arteriole of about two millimetres in diameter. No other change was observed except slight atheroma of the aorta. The arteries affected with thrombosis presented endarteritis, which extended to the middle coat inclusively. Virchow has stated that simple ulcer of the stomach results from limited arteritis, and this case confirms his opinion.—*Med. Times and Gaz.*, Sept. 4, 1880.

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Case of Laparotomy for a Singular Cause.

A man, three weeks before being brought to the Vienna General Hospital, had introduced a varnishing brush, seven inches long, into the rectum in order to relieve constipation. When the brush had entered deeply, the handle slipped from his hand, and he continued for three weeks to keep the body in the abdomen, in the hope that it would be discharged at stool. Violent pains then coming on, he was brought to the hospital, and a diffused peritonitis was found to exist. An exploration of the rectum by Simon's method was practised without the body being detected; and, as the patient was quite positive that the brush was still in the abdomen, Hofrath Prof. BILLROTH performed laparotomy. It was found that the brush had penetrated as far as the sigmoid flexure, about twenty-five centimetres distant from the anus, and there had penetrated the intestinal canal, producing a diffused peritonitis. The man died six hours after the operation.—*Allg. Wien. Med. Zeit.*, August 17. [In the same journal for August 31 is related by Dr. WALSER, of Graz, a very similar case, which, however, having been seen much earlier, had a more fortunate termination. A man, three days before his admission to the hospital, had passed the handle of a hammer, twenty-five centimetres in length and two and a half in breadth, into the rectum in order to arrest a diarrhœa, and while doing so it slipped from his hand and disappeared. The abdomen was moderately distended and only slightly sensitive; and, on making firm pressure over the umbilicus, a hard, movable body could be felt, having its end exactly in the middle of the epigastrium. It could not be followed downwards, but seemed to have entered the pelvis. The general state of the patient was satisfactory, but he resisted exploration by the rectum so much that he was put under anæsthetics. Although the body could not be felt in the rectum, by pressure and manipulation of the upper end, Dr. Walser was at last able to get hold of it with a lithotomy forceps and slowly remove it.]—*Med. Times and Gazette*, Sept. 25, 1880.

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Operations for Umbilical Hernia.

In a communication to the Société de Médecine (*L' Union Méd.*, Sept. 5), M. POLAILLON related two cases of strangulated umbilical hernia occurring in women, forty-one and forty-four years of age, both of whom recovered promptly after operation. He observed that these facts, taken with others which have been published, are of interest, as showing that umbilical hernia, when small or of medium size, may be operated upon with pretty much the same chances of success as in other forms of hernia. The excessive mortality which had attended the operation, and which led many surgeons to proscribe it altogether, was observed before antiseptic treatment was introduced, and was due to suppurative peritonitis being so frequently set up. Under the antiseptic method immediate union usually takes place, and this danger is rendered very slight.—*Med. Times and Gazette*, Sept. 18, 1880.

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On the Progress in the Treatment of Stricture of the Urethra.

At the late meeting of the British Medical Association Sir HENRY THOMPSON introduced in the Surgical Section a discussion on the treatment of stricture of the urethra with the following interesting and instructive remarks:—

The most important changes in relation to the treatment of stricture of the urethra, during the last thirty years, in this country may, I think, be classified under five heads.

1. A general recognition of the principle, that a delicate and gentle manipulation of any instruments in the urethra is alone trustworthy or permissible, in the

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place of that which was formerly greatly prevalent—viz., that urethral obstruction might often be overcome mainly by force.

2. The substitution of very pliable and taper instruments for silver and stiff gum-elastic instruments in much of the treatment, both in ordinary and in continuous dilatation.

3. A more general acceptance of the doctrine, that—given time, patience, and gentle handling—very few strictures should be met with which cannot be fairly and successfully traversed by an instrument passed through them into the bladder. At the same time, an undoubted improvement is to be noted in the mode of operating for those exceptional cases in which the surgeon fails to accomplish that object.

4. A more general acceptance of the doctrine, that dilatation of the urethra, whether with or without incision, may be carried with advantage to a somewhat higher degree than had for some time previously been regarded as desirable.

5. The substitution of internal urethrotomy in some form for the application of caustics, and for external urethrotomy on a guide.

All these may, I think, be accepted, and will be generally accepted, as illustrations of advance in the treatment of stricture.

I propose to make a remark or two on each of the topics named, at the same time venturing to indicate anything which may appear to me to be a sign of retrograde movement at any point.

I need say little on the first subject—viz., the substitution of gentleness and more careful modes of manipulation for those which were previously in vogue. Men of the present generation, however, scarcely know how rude, and, in some hands, almost barbarous, was the method of handling formerly employed in the treatment of urethral disease. The term "forcing a stricture" was then, as it had long been, an accepted surgical term both here and abroad, and denoted simply the systematic application of violence to an organic obstruction—the result of which, in nine cases out of ten, was, and could only be, the laceration of the canal and the making of a false passage. I suppose I am right in saying that such a proceeding is no longer a surgical one; and, if ever adopted, is intended to be an exceptional occurrence, and not within the limits of the rules of our art. If there was one thing more than another in the treatment of stricture which, at an early date, appeared to me unwarrantable, not to say shocking, it was the sight of a surgeon, firmly grasping a solid instrument and pressing its points with rigid arm against an urethral obstruction until something gave way, and the point was made to advance—somewhere. From the earliest time to the present, I have invariably taught, not merely that a narrow stricture can only be traversed by gentle means, but that nothing prevents success so much as a deviation from this rule; and I believe that the constant advocacy of it has not been without its influence in suppressing the dangerous practice which formerly was but too common.

The substitution of modern flexible instruments, chiefly of French origin, for the silver catheters almost invariably used thirty years ago, when the old wax or plaster bougies had fallen, somewhat undeservedly, perhaps, into disrepute, has been an advance of enormous importance. I first learned the value of flexible instruments many years ago in Paris, and have used them ever since, and still desire to speak in high terms of their practical utility in most of the varied forms and kinds in which they are presented. To a certain, although limited, extent, some of them have aided us to achieve that very considerable advance in the treatment of stricture which was set on foot by the late Professor Syme, and consisted in the doctrine (first distinctly taught and illustrated by him), that impermeable stricture is a condition of extreme rarity. In other words, he proved

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that almost any stricture, however narrow, if urine passes outwardly through it, is permeable also to instruments in the hands of a careful, patient, and practised surgeon—provided only there is no crisis of actual retention present demanding immediate relief. The gain accruing to the patient through this doctrine has been very great; since, thirty years ago, a dissection through the perineum for so-called "impermeable stricture" was a comparatively common operation in our hospitals; and one, moreover, which was frequently fatal. Very rarely, indeed, ought such a proceeding to be heard of now, since, with time and patience, a fine instrument can almost invariably be carried safely through any stricture into the bladder.

But these instruments are invaluable also in prosecuting the ordinary treatment known as "dilatation." Notwithstanding the small value set upon this method by some surgeons, who profess to regard it as scarcely worth the name of treatment, and desire to substitute urethrotomy in almost all cases of stricture, whether recent or confirmed, I see no reason whatever for discarding it. If the cutting operation necessarily conferred a cure, in the sense of preventing return of the disease, even in a bare majority of cases, the propriety of employing dilatation might perhaps be called in question. This point will be considered hereafter; meantime, there can be no doubt that such complete relief is afforded and on terms which are easy, by the use of simple flexible bougies, or by the same supplied with lead cores, and, lastly, by well-polished tapering metal sounds, that I believe it to be in the patient's interest to employ dilatation only so long as it is quite efficient; and then, as soon as it ceases to be so, and mostly not until then, to adopt other methods of a more serious kind.

To revert for a moment to the occasional existence of an "impermeable stricture," which has just been referred to, it may be briefly said that when, as sometimes happens, the surgeon fails, after adequate trials, to pass any instrument, however small, through a narrow or tortuous stricture, the method known as "perineal section" sometimes proves a valuable resource. Like other proceedings, it has been rendered more easy and efficient, and is a far safer operation than that which was done fifty years ago. Since that time, various little improvements have been added to the details of the performance, so as to facilitate the finding of the narrowed passage.

The "calibre" or "diameter" of the urethra, or the amount of its dilatability, is a subject which has come again to the front during the last few years: this time, from attention paid to the subject in America. This is one of those points relative to which our figure of the pendulum is in some measure applicable. It has always been a subject affording matter for discussion throughout the history of urethral surgery, relative to which, had we time, I could give you some curious illustrations. The different measurements made by anatomists at different epochs —and their name is legion—are remarkable chiefly for their diversity; and the rules of practice pursued by different surgeons have similarly varied. This is a fact which need not excite surprise, considering the complex nature of the passage, the relations of which have been so largely studied. The question is one of sufficient importance to be worth considering, perhaps, more closely. A good deal of the apparent discrepancy in the measurements, in the use of terms, and consequently in the practice of different surgeons, is due, in my opinion, to a certain failure among many to recognize what are the natural physical conditions of the passage in question. We hear of its size, of its diameter, of its calibre, as if the urethra were a tube of constant capacity—as if it resembled an artery, a bronchial tube, or an intestine. But in fact, the urethra has no constant quality comparable with that which we call "size" in any sense in which that term applies to the passages just mentioned. Indeed, the urethra has no "size" or

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"calibre" when it is not used as a canal; and it is only thus used during a few minutes, one might rather say seconds, during the twenty-four hours, and also when artificially opened by the passing of a foreign body into it. It is simply a long chink, the sides of which are maintained in close contact by organic muscles, and traversing a mass of complex structures, which, like itself, are susceptible of great physical changes under different circumstances. Second to its natural contractility, the most distinguishing mechanical quality of this closely shut passage is its dilatability—a still undetermined, and, I may add, an undeterminable, quality; for its dilatability naturally varies greatly in different parts of its course, in consequence of the variety in the nature of the surrounding structures; while its own delicate walls and subjacent tissues are almost indefinitely extensible under the influence of continued pressure.

During the first third of the present century, there was a strong tendency, both here and in France, to regard the urethra as a passage of greater size than the surgeons of the preceding epoch had assigned to it, and to use larger instruments in the dilatation of stricture. Boyer advocated them, and, later, Mayor of Lausanne employed them, sometimes with much force. In this country, Pearson, who had a large experience, made a point of carrying dilatation as a cure for strictures to Nos. 18 and 20, English scale, equivalent to about 28 to 32 of the French scale. One of his instruments has long been in my possession, and is here for your inspection. A good deal of mischief followed what may have been the indiscriminate use of these large bougies; hence a reaction took place, and smaller sizes were adopted, with less beneficial influence, perhaps, upon the stricture itself, but also with less evil on the constitution of the patient. Within the last few years, Dr. Otis, of New York, has revived the theory of "the large diameter of the urethra," and has advocated larger instruments; besides recognizing as examples of organic stricture very slight deviations from what he conceives to be the normal "calibre," or what I should regard as the possible extent of dilatability possessed by the passage. I have no intention of formally examining the views which he has enunciated relative to this matter, having no allotted time or space in this paper for the purpose. But I will venture to say, in connection with this subject, that we, on this side, may perhaps have erred somewhat during the period of reaction referred to, in not sufficiently availing ourselves, especially in the practice of lithotrity, of the large degree of dilatability which the urethra undoubtedly possesses; and that we owe to our American brethren an advantage which the latest assertion of that fact has pointed out to us. And I desire hereby to record my sense of the value of that lesson by assuring them how gratefully I receive and profit by it. But I cannot say thus much without also saying, in the same breath, that it is a very easy thing to damage irreparably some individuals by overdistending the urethra, and that such damage I have of late witnessed in several instances. I must oppose, also, another doctrine which is associated with the proceeding, viz., that stricture of the urethra is permanently cured by complete division of all the diseased tissues affecting the passage. I have seen too many examples of return of narrowing in cases thus operated on, to admit that at present we possess any certainty of being able so to act on a confirmed organic stricture, as to insure its non-appearance in after-life. Further, I have carefully followed many of Syme's cases of external division in his and in my own hands, where the diseased structures constituting stricture have been entirely divided, and in a way more certainly complete than any internal urethrotomy can offer; and am compelled to avow that, in very few instances indeed, has the thus divided stricture not reasserted itself after the lapse of time. Nevertheless, it is an important truth that, when any portion of the stricture escapes division, the narrowing speedily returns.

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For that operation, I have myself substituted internal urethrotomy in the treatment of obstinate cases, during a period of now considerably more than twenty years, having ceased to perform Syme's operation, as a rule, in 1857. Since that date, I have performed the internal operation at University College Hospital and elsewhere some hundreds of times. My experience leads me to regard it as a far safer proceeding than Syme's in relation to life, and one which is quite as efficient in relation to the general results.

But, at the date named (1857), internal urethrotomy was rarely, if ever, employed in this country; the method best known here, viz., that advocated by Stafford, had lapsed through its inadequacy to render any important service, and dilatation and caustics constituted the treatment for the great majority of cases. Like many of my brethren, therefore, I tested other proposals which appeared soon afterwards, such as by splitting the stricture, which attained a considerable popularity for a time; overdistension, etc. Like others, too, I believe that there are good grounds for the conclusion that, for those examples of the disease which are so confirmed as to defy dilatation, those methods are inferior in permanency of effect to a well performed, that is, to a complete, division by internal urethrotomy.

Nevertheless, regarding the many methods of performing internal urethrotomy which have been proposed and practised, I doubt whether it is possible for any one to pronounce which is absolutely the best. In every one, the object is, or ought to be, the same, viz., the complete division of the morbid tissue; but varied mechanical means of accomplishing this are originated by different minds, and different modes suit the hands of different surgeons. Each one probably prefers to accomplish the object with the instrument with which he is most familiar, and that method will generally be the most efficient in his hands. At the same time, many of the modes employed to accomplish internal urethrotomy will not insure the complete division of the strictured portions of the urethra, and such methods must be regarded as defective.

The principles which govern a sound procedure are more essential points for the surgeon to discover and to teach, than a consideration of small details. These principles may be briefly stated, I think, as follows:—

1. The necessity for a physical examination before operating, to detect and estimate the narrowed portions of the urethra. This is best accomplished, in my opinion, by means of a series of metal bulbs on slender stems, taking care not to regard as diseased changes those points at which the urethra itself is naturally only slightly dilatable. These bulbous exploring sounds I have invariably used, advocating them as essential to diagnosis in my first work, twenty-six years ago; and I still prefer them to any other, as safer, less irritating, and not less efficient, than more complex instruments which have been devised.

2. The necessity for accomplishing a complete division of all the morbid tissue constituting the stricture, by an incision carried through it; no matter what part of the urethra, or how much of it, is involved in the disease. As a general rule, this is, I think, most efficiently completed by a slender blade, carried beyond the stricture, and made to cut from within outwards; this latter proviso being, however, an open question. The important point, however, is, that any alleviation of the patient's condition attained by operation will be transitory if any part of the narrowing be left undivided.

3. I regard it as essential, after such division, to place at once a full-sized catheter for some hours in the bladder, to insure a free outlet for the urine, and prevent all possibility of extravasation of urine into and through the incisions thus made.

4. The necessity for passing full-sized bougies subsequently, at occasional in-

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tervals, in order to effect free distension of the walls of the urethra, which lie in almost constant apposition, and so to prevent reunion of divided surfaces by the first intention.

The foregoing may, I believe, be held to embody those general principles which most experienced surgeons at the present day agree—with a few dissentients, I am aware—ought to guide us in practice. That there are different modes of carrying them out, is, as I have before intimated, a matter no less of notoriety than of necessity, as inherent in the nature of things. Such a circumstance may be regarded as one fraught with some advantage for us here, in providing scope for discussion, and so eliciting a comparison of ideas and methods among the many experienced observers who honour the Section with their presence this day. I shall, therefore, very briefly offer my own views as to the best mode which a long familiarity with the operation in practice has led me to adopt.

In respect of the instrument to be employed, I unhesitatingly avow a preference for one which, in principle of construction, resembles a slender knife with a long handle, in order that it may act completely in obedience to the impetus given to it by the hand. Concealed within a bulb at the end of the instrument is the blade; so that, before this is unsheathed, the urethrotome itself is an efficient bulbous-ended explorer (like those already employed in the previous exploration), and is used as such to identify the stricture again at the very moment of operating. With such an instrument, the incision is directed solely by intelligence, and is limited or extended according to the sensations experienced by the operator's hand, of resistance or the reverse; just as happens in the analogous instance of division of tissues which are not visible, in the case of contracted tendon in club-foot.

To my mind, having had some little experience of the last-named proceeding many years ago, when surgeon to the Marylebone Infirmary, the two operations much resemble each other, and alike require a skilled and unrestricted hand to accomplish a satisfactory division of the constricting tissues; the right amount, neither too little nor too much.

All urethrotomes in which the blade can only move in a grooved director, and this is undoubtedly the most common mode of constructing them, produce a more or less uniform mechanical result, and are incapable of effecting any variation in depth and extent of incision, often necessary to accomplish adequate division in the varying conditions requiring operation. This is what I am compelled to regard as a serious defect, and explains my preference for the bulbous-ended instrument described. It is right to say, however, that the following objection to the latter is sometimes raised, viz., that very few strictures requiring operation are sufficiently narrow to permit the introduction through them of an urethrotome, the bulb of which is equal to No. 5 or 6 of the English scale. That may be quite true; but I have never seen a case of stricture, however obstinate or narrow, which could not be temporarily brought to the size required by tying in a slender gum-elastic catheter; and I think the advantage of operating in the manner described well worth the delay of a day or two devoted to such preparation of the urethra. Still, I am quite ready to concede that an instrument which cuts by means of a blade advancing from without inwards, on a guide previously passed, may be a safer one in some hands, especially if they be not thoroughly practised in traversing the urethra. My experience of internal urethrotomy, which has been thus conducted throughout, that is, on the same principle and with the same instruments, has been from the first exceedingly satisfactory. The operation itself is fraught with very little risk; the durability of the relief afforded is the chief question to ascertain. The last twenty years have enabled me to watch the history and course of a good many cases; and, speaking in general

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terms, I may say that the first three or four years after the proceeding, often more, are very comfortable for the patient; after which, at earlier or later dates, say from four to seven years afterwards, he often finds himself reluctantly compelled to retreat a number or two in the size of the bougie, which he has been accustomed to pass once or twice a month. Instead of 11 to 13, English scale, he must be content with 9 or 10, or less; but he has no symptoms to complain of. At an interval, varying in different cases from seven to twelve years, the condition in some cases becomes troublesome, and the patient finds No. 7, 6, or 5 perhaps, frequently necessary, and also that some of the old symptoms have returned. In such circumstances, I do not hesitate to advise another operation, and have occasionally performed it a second time. It so happens that I did this for one of my medical brethren only last week, having previously employed the same proceeding in 1867, thirteen years ago. I passed a No. 17 English, about 28 French, with ease, immediately after the incisions, and he is now doing admirably. In one case only, I have done the operation three times for the same patient. There is no reason why it should not be repeated, if necessary, just as we crush a second or a third calculus which may be formed after the first. In the case last referred to, the best result followed the third operation, and occasional dilatation has been quite sufficient to maintain a highly satisfactory state of the urethra ever since, although the date of that operation is at least eight years ago. I am very certain that the plan I have followed is one of great value for cases in which dilatation does not afford adequate relief; and I certainly think we are more prone to err in withholding the operation than by recommending it too generally. Inadequate relief to the stricture involves irretrievable mischief to the ureters and kidneys; and many a life has been sacrificed to persistence in painful and inefficient attempts to dilate, which might have been saved by free division of the stricture or strictures. The formation of a free passage for the urine is the necessary safeguard for the secreting organs, and there should be no loss of time in accomplishing it by internal urethrotomy, so soon as the stricture is no longer readily amenable to the action of dilatation. But when the operation is adopted, nothing less than a free and complete division of all the obstructing tissues should satisfy the operator. It cannot be too often repeated that on this depends the success of the operation.

The great desideratum of the present time unquestionably is the discovery of a mode of treatment which shall permanently restore to the strictured passage its original dilatability. I cannot say that a thoughtful consideration of the pathological condition which constitutes organic stricture, emboldens me to hope that such a result can be insured by the application of any principles of action at present known to us. If this be so, a large and important field for labour and for speculative inquiry is open in this direction. May it fall to the lot of some abler successor to this office of mine to-day, to record the accomplishment of this great achievement before another thirty years have expired.—*British Med. Journal*, Aug. 28, 1880.

Fat-Embolism in Fractures.

The subject of fatty embolism in cases of fracture, though it has attracted considerable attention in Europe, has not been much noticed in this country, therefore the particulars of the following case reported by Mr. F. A. SOUTHAM, Medical and Surgical Registrar, Manchester Royal Infirmary (*Lancet*, July 10, 1880), in which this condition was found to be present after death, will be read with interest.

A man, aged forty years, was admitted into the Manchester Royal Infirmary about 11 A. M. on February 27th, suffering from a severe compound comminuted

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fracture of the bones of both legs about their lower third, caused by a railway wagon passing over them. Amputation of both legs below the knee was performed antiseptically immediately after admission by Mr. Heath. The patient bore the operation very well, and was kept under the influence of opium afterwards. The evening temperature registered 101.2°. He passed a good night and expressed himself as feeling very comfortable the following morning. Temperature 103°; pulse 132; his general condition appearing altogether very satisfactory considering the severe injuries he had received. About 3 P.M., however, the same afternoon, a sudden change was observed; he became very restless and excited, his countenance of a somewhat dusky hue, with increased frequency of the pulse and respiration; no rigors nor marked dyspnœa were observed; later on he became delirious and his condition was quite hopeless. At 9 P.M. the temperature was 105°, the pulse too quick and weak to be counted. There was slight discoloration of the integuments of the stumps discernible above the dressings, and a faint odour was perceptible, showing that putrefactive changes had been set up in spite of the antiseptic measures employed in the operation. At 10 P.M. death took place. (Strange to say, both the patient's arms had been amputated above the elbows about nine years previously for injuries of a similar character.) A post-mortem examination was made by Dr. Bradshaw, pathologist to the hospital, but no morbid changes of any importance were perceptible to the naked eye. As from the nature of the injuries it was thought not improbable that fatty embolism of the lungs might be present, a portion of those organs was kept for microscopic examination.

Sections of the lung were afterwards made by Dr. Bradshaw, and on staining them with a solution of osmic acid, the presence of fatty matter in the capillaries and minute arteries was at once detected by him. It presented itself as minute globules and irregular masses of various sizes and shapes completely blocking up the vessels. Unfortunately none of the other organs were kept for microscopic examination.

In this case it is difficult to say whether the fatal result must be attributed to the plugging of the minute vessels of the lungs by particles of fat, or whether it was due to a condition of acute septicæmia which so often suddenly sets in about the middle or end of the second day after the receipt of a severe injury, and which usually causes death in the course of a few hours. The symptoms of this acute form of blood-poisoning are described by Billroth as "collapse with cyanosis" suddenly setting in. "The patients appear as if suddenly poisoned after having perhaps felt quite well during the first twenty-four hours after the operation." In this case death was at first attributed to this latter condition, and the rapid rise of temperature to 105°, along with the state of both stumps, would certainly be strong arguments in favor of it. On the other hand, the fatal result may have been due to the plugging of the vessels of the lungs, for the clinical symptoms of fatty embolism, as hitherto described—viz., collapse, more or less sudden, accompanied by the general signs of shock, though usually coming on shortly after the receipt of the injury, may be delayed for twenty-four hours or even two or three days, the patient in the mean time appearing comparatively well. The taking up of the fat by the open vessels from the medulla of the bone begins immediately after the receipt of the injury, and where an interval of time elapses before the symptoms of pulmonary embolism suddenly appear, may it not be explained on the supposition that the fatty matter, temporarily arrested or stranded in the vessels in the neighbourhood of the wound, is, after a time, when the patient has recovered from the shock of the injury, and when reaction has set in, suddenly carried on with the blood-stream under the influence of the renewed circulation, until it is arrested in the vessels of the lungs?

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Fatty embolism of the lungs, though most commonly observed in compound, has also been found in cases of simple fracture. A very interesting case was reported by Dr. Hamilton, of Edinburgh (*Brit. Med. Journ.*, October, 1877), where this condition was found in a patient after rupture of a fatty liver, and it is not at all improbable that it is present to a greater or less degree when life is suddenly terminated by severe injuries, and especially in those cases attended by lesions of the osseous system.

In a paper published by Prof. Sanders and Dr. Hamilton, which appeared in the *Edinburgh Medical Journal* last year, particulars are given of a case of diabetic coma, in which, after death, fatty embolism of the lungs and also of the kidneys was observed. In the former organs, "not only were the small vessels plugged with the oily embola, but in the larger and middle-sized arteries the oil-globules spread themselves out on the wall of the vessels and adhered to it." A peculiar condition of the blood was observed, and this has also been found to exist in other cases of a similar nature. It presented the characteristic odour of acetone, and on standing a milk-white stratum collected on its upper surface, which on microscopic examination was found to consist of a fine chyle-like emulsion of oil, the globules being minutely divided.

Though numerous cases have been described on the Continent, these are, as far as I am aware, the only two hitherto recorded in this country in which on post-mortem examination fat-embolism of the lungs has been found to exist.

The most recent researches on the subject of fat-embolism are, I believe, those of Wiener (*Arch. fur Experim. Path.*, vol. xi.), who made a number of experiments on different animals (dogs, rabbits, frogs), injecting pure olive oil into the serous cavities, veins, and subcutaneous tissue.

In a first series of experiments, he found that when oil was injected into the pleura or peritoneal cavity, extensive fat-embolism was found in the capillaries of the lungs in the course of a few hours. When the oil was injected into the subcutaneous tissue the pulmonary embolism, which was much more limited, did not appear until the third or fourth day; this he proved was due to the intervention of the lymphatic glands, which retained and probably at the same time partly emulsified it. The conclusion he draws from these results is that the fatty matter can be taken up not only by the veins (as was formerly supposed), but also by the lymphatics, even when they are intact, and that the intervention of lymphatic glands does not, as has been suggested, altogether prevent fat-embolism in the lungs.

In a second series of experiments Wiener found that changes in the lungs, consisting of ecchymoses and pulmonary œdema, due to the presence of fat-emboli, were only present when very extensive fat-embolism existed; hence he infers that as a rule fat-embolism is perfectly harmless and does not give rise to the symptoms of dyspnœa, convulsions, shock, etc., which have been observed in man in cases of fat-embolism occurring after fractures. This view is supported by the fact that many of the animals experimented upon remained perfectly well, and yet when killed fifteen to twenty days after the injection, showed extensive fat-embolism of the lungs.

In a further series of experiments with respect to the ultimate destruction of the fatty emboli, he found that this condition was present in many organs, but especially in the brain and kidneys; few, if any, emboli were found in the liver, as in this organ the fatty matter seems to pass very readily through the walls of the capillaries, becoming deposited in the form of large fat-drops in the hepatic cells. In the kidneys the fat is found in the glomeruli, in the vasa afferentia, and in the tubuli themselves; from these facts, coupled with the appearance of large masses of fat in the urine soon after the injection, Wiener infers that the greater portion

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of the fat injected is carried with the blood into the kidneys, where it is eliminated in the glomeruli, and passes away with the urine. At the same time no doubt another portion by becoming emulsified is taken up by the lymphatics. Finally, he found that in moderately strong dogs all the fat injected appeared to become eliminated in from three to four weeks.

As illustrative of the facts observed by Wiener with respect to the part played by the liver in cases of fat-embolism, I may refer to a case of diabetic coma which was a short time ago in the Manchester Infirmary, under the care of Dr. Dreschfeld, and in which, both before and after death, the blood was found to contain large quantities of fatty matter. On post-mortem examination, Dr. Dreschfeld found no evidence of fat-embolism in the lungs nor in the liver, but in the latter organ he observed extensive and well-marked fatty infiltration of the hepatic cells.

As a complication of simple fractures, fat-embolism must not be confounded with those cases of venous thrombosis starting from the neighbourhood of the injury, and where death sometimes suddenly results from detachment of a portion of the clot and its lodgment in the pulmonary artery or one of its large branches. In the *Lancet* of March 1, 1879, I published particulars of two cases of this fortunately very rare complication of simple fractures of the lower extremity, where, on post-mortem examination, embolism of the pulmonary artery was found, causing sudden death.

The whole question of fatty embolism is still involved in much obscurity, and from the importance it possesses both in its clinical and its pathological bearings, it is one well worthy of further investigation.

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Treatment of Sprains.

Mr. R. Dacre Fox, Surgeon to the Manchester Southern Hospital, in a communication to the *British Medical Journal*, Sept. 25, 1880, makes the following interesting observations on the treatment of sprains:—

The frequency with which sprains occur in general practice, and the somewhat unsatisfactory results of the treatment ordinarily adopted, induce me to bring forward a method that I have used in a great many cases with considerable success. Sprains may be broadly divided into two kinds, mild and severe; the former consisting merely of a temporary overdistension of the parts around a joint, which rest and anodyne applications usually soon cure; the latter involving, as I believe, much more serious pathological results, which the following plan is specially contrived to obviate.

The effects of a severe sprain are, that the fibrous ligaments controlling the movements of the joint and binding the tendons in their grooves become overstretched, swollen, and softened; the cellular tissue about the ligaments and in the tendon-grooves becomes œdematous; and plastic material is exuded; while, as a consequence of these changes, the tendons are displaced in their beds. If this condition be not actively treated, it may, and often does, lead to continued lameness, due, in all probability, partly to a diminution in the calibre of the tendon-groove, with impaired muscular action, and partly to the torn ligaments and bruised cellular tissue having undergone changes which render them incapable of adapting themselves to the movements of the joint, which are consequently impeded. I believe this result may be prevented by the application of firm direct equal pressure, applied manually at first, and kept up and controlled by pads placed in the line of the tendons, and kept in position by properly-shaped plasters and bandages, and sometimes by splints. This pressure helps to disperse the œdema, to replace the tendon in its normal position, to hasten the absorption of any plastic exudation, and thus to prevent diminution in the calibre of the tendon-groove. I cannot say this is a novel method of treatment; but I think it is one

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not usually practised, partly because it entails the expenditure of much time and trouble, and partly, I feel sure, because there is and has been a tendency to underestimate the inconvenience and distress arising from a badly sprained joint.

The common practice, in treating a sprain, is to put on a bandage, telling the patient to take it off if the joint becomes painful, and to substitute warm-water fomentations. When the swelling has subsided, if the injury be not so slight as to be already cured, a liniment or the application of iodine is generally ordered. Very frequently the tight bandage causes inflammation, while the rubbing and painting are practically useless. There are numbers of cases of slight sprain, indeed, which will get well with comparatively little treatment or none at all; but in that more severe form where, after an inflammatory or at least exceedingly hyperæmic stage, swelling takes place with the results I have described, the application of these remedies does not prevent the joint from being left rigid, painful, and unfit for use for a very long period. Now it is, as I have said, in preventing all this, that the plan of treatment by direct, equal, and continuous pressure will be found exceedingly valuable; for, where it has been properly carried out, I have always found that the joint returns quickly to its normal condition—pain being speedily relieved, and rigidity prevented. The treatment may be divided into two stages; the first lasting from a day to a week or longer, during which the treatment has to be directed to averting inflammation by rest, warm applications, anodyne lotions, etc.; the second commencing when the joint has become cold, swollen, and painful on movement—in fact, when the injury has assumed a more or less chronic character. It is during this second period that I believe the active treatment I advocate ought to be employed. It is important not to commence this until the surface-heat is normal; for undoubtedly, when any tendency to inflammation exists in the tendon-sheath, pressure aggravates it, and I have known it to lead to untoward results.

It is of course impossible, within the limits of this paper, to describe the special adaptation of this method to each joint; but I will take as an illustration the ankle. If a wire be passed round the joint so as to impinge on the two malleoli and the tendo Achillis, it will define three or four well-marked hollows: one on each side of the tendo Achillis behind each malleolus, one in front of the fibula, with a fourth shallower one in front of the tibia. When the ankle is severely sprained these fossæ become obliterated, and are filled up with effusion, overstretched ligaments, and displaced tendons.

Observation has led me to believe that there are very few sprained ankles in which muscular displacement to some degree does not take place. It most commonly occurs in front of the outer malleolus, involving the outer part of the annular ligament, the extensor longus digitorum, and the anterior fasciculus of the external lateral ligament; next, perhaps, the posterior peroneo-tarsal ligament and structures behind the external malleolus. Cases of similar overstretching and displacement on the inner side of the ankle are happily rare; but in gravity they bear much the same relation to the former as a Pott's dislocation does to a simple fractured fibula. I will assume an ankle-joint has sustained a severe sprain all round, and has arrived at the chronic stage: modifications of the treatment of such a case will meet all that are likely to occur. To carry out the first principles of treatment by direct, *equal*, and continuous pressure, it is clear the fossæ mentioned above must be filled, or rather their sites covered by pads so as to cause the retaining plasters, bandages, and splints to exercise equal pressure everywhere. By making pressure with the thumb from below upwards in the line of the fossæ, a good deal of the œdema may be squeezed away and the displaced tendons in some degree restored. I make, as a rule, five pads (of tow and lint or leather): two about four inches long by one inch wide (one a little shorter

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than the other, so as to be better adapted to the curve extending upwards from the dorsum of the foot to the crest of the tibia); another shorter, broader, and thinner, to place over the tibialis anticus and extensor proprius pollicis; and two, three, or four inches long, and bolster-shaped, to fill in the posterior fossæ on each side of the tendo Achillis. It is often advisable, in old-standing cases, to supplement the pads by strips of plaster to insure firmer pressure. Both pads and strips of plaster should be made exactly to fit, as, if too large, they are useless, from the pressure being too diffused; and, if too small, they exercise too little pressure. A moment's consideration will render this obvious. If too large a pad, for instance, be placed over the outer postmalleolar fossa, its edges rest on the tendo Achillis and outer malleolus like the piers of an arch, leaving the fossa itself untouched. To keep these pads in their place, I use a long extended half-moon-shaped piece of plaster (emplastrum saponis spread on leather), long enough for the ends to overlap in front when the heel is placed in the centre, and a narrow oblong piece above this, placed round the lower part of the leg, to cover the upper part of the pads. The handiest way to apply the pads is to place an India-rubber band above the ankle, to slip the pads under it, and then, planting the heel in the centre of the curved plaster, to bring the two ends across the front of the joint so as to overlap. The pads having been secured in position, the elastic ring is to be cut, and the oblong piece of plaster put on so as to encircle their upper ends; lastly, the whole ankle is to be firmly bandaged. Amongst the working classes, or in the case of an uncontrollable patient, it is advisable to apply two thin splints over the anterior pads, keeping them in position by a long strip of adhesive plaster. Where there is much superficial ecchymosis, where there are bullæ, or where there is unhealthy-looking skin, instead of using soap-plaster, the pads may be kept in position and pressure maintained by a piece of lint on which ointment has been spread. Calamine ointment made stiffly is clean, and not uncomfortably greasy. If, as occasionally happens, even this should cause irritation, warm wet lint, covered by oiled silk, may be advantageously used over the pads, and secured by a firm bandage; but neither of these applications can compare in efficiency with the soap-plaster spread on leather.

Midwifery and Gynæcology.

Sterility; Excision of Anomalous Membrane; Conception.

Dr. E. D. MAPOTHER reports (*British Med. Journal*, Sept. 4, 1880) the following interesting case: In October, 1878, a lady, aged 28, and married seven years, consulted Dr. Kidd and Dr. Mapother concerning sterility. She was a person of great beauty and large frame, and with full breasts. A symmetrical and evidently congenital membrane was found to cross the vagina at right angles about three inches beyond the myrtiform caruncles. There was a central circular aperture, about two lines in diameter, and a sound passed through it found a cavity about an inch long before the cervix. The front of the membrane being smooth and convex might be mistaken for this part, save for the very different shape of the opening. At its circumference posteriorly it was thick enough to suggest the possibility of there being a peritoneal inflexion. There was no other abnormality, and the patient and her husband had been quite unaware of any. The possible risk above named having been explained, Dr. Kidd wholly excised the membrane with the aid of the scalpel and the forceps usually employed in paring vesico-vaginal fistulæ. A perfectly normal cervix and os uteri were disclosed. A glass dilator was worn with intervals for five weeks. The lady was

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now in the last month of pregnancy. Dr. Mapother regretted he had not searched for muscular tissue, which might have, sphincter-like, excluded spermatozoa. As the aperture in the membrane was above the level of the os, apposition of the meatus with the latter could not occur, and the expulsion of cervical mucus which probably preceded, and the aspiration which succeeded, the ejaculation of semen, would be interfered with. Embryology scarcely explained the existence of such a symmetrical partition in a vagina of otherwise normal form, for the hypothesis of the suppression of one Müllerian canal above, the other below, would be far fetched. While no record of this precise condition existed, cases of double uterus and vagina of the marsupial type, from want of fusion of the Müllerian canals, were pretty frequent. The very dilatable sphincter between the urogenital canal and the vestibule in the monotremes was somewhat similar.

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A New Dressing for the Navel.

Dorhn recommends (*Centralblatt für Gynäkologie*, No. 14, 1880) the following arrangement in order to avoid the evil effects which occasionally follow the separation of the cord when dressed in the usual fashion. The newly-born child, after having its navel-string tied and cut, is first washed in the usual manner, after which it is laid on a table, and the remains of the navel-string, as well as the parts round about the navel, washed with a 2½ p. c. solution of carbolic acid. The cord is now tied a second time with a ligature which has been duly carbolized, and the superabundant portion of navel-string cut off with its previous ligature attached to it. A layer of carbolized wool is applied over the stump of the navel-string, and over all a portion of sticking-plaster about the breadth of the hand is firmly fastened. This dressing is allowed to remain till the seventh day without being aired or renewed. On removing it then, the remains of the navel-string will be found either nearly or entirely separated. In the former case it is cut off with a scissors. The author declares that he has found this dressing satisfactory in twenty-eight cases.—*Edinburgh Med. Journal*, Sept. 1880.

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Etiology and Treatment of Rupture of the Uterus.

Dr. R. Frommel states (*Zeitschrift f. Geb. u. Gynäk*, v. 2, 1880) that by palpation of the uterus during a pain, proceeding from above downward on its anterior aspect, he finds that, at a point more or less above the symphysis, the hard, contracted tissue of the uterus ceases to be felt, the portion below this level being soft and flaccid. To recognize this state of things, it is necessary that the voluntary action of the abdominal muscles be kept in abeyance, for which purpose the use of an anæsthetic is sometimes necessary. That the soft tissue below is really a portion of the uterus is shown by the fact that the presenting part of the fœtus can be felt to be contained in it, and also by conjoined examination after delivery; that the condition is not due to pressure against the pelvic inlet is shown by its presence in those primiparæ in whom the head is already within the pelvis before labour begins. This line of demarcation between the contraction and the flaccid portions of the uterus (which Bandl supposed to correspond to the os internum, but which seems to be situated in the proper body of the organ, and which, after Schröder, the author prefers to call the "contracting ring") is generally two or three finger-breadths above the symphysis, often midway between the latter and the umbilicus, and in some instances almost as high as the navel. Where the last-named condition obtains, the intervention of art is needed to prevent excessive distension of the lower segment and consequent rupture, as described by Bandl. The behaviour of the round ligaments is of material aid in diagnosticating this condition of distension.

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One of them can usually be seen and felt to stand out more prominently than its fellow during a pain, and it indicates that the distension is greatest on that side—generally the side at which the occiput is situated; the line of demarcation will then be found to run obliquely from below on the side of the least, to a higher point on the side of the greatest, distension.

Seven cases are given in which laparotomy was performed after rupture. They all ended fatally. An eighth case is related in which the rupture took place during the operation of turning by the feet, and in which, before the operation was undertaken, the child was recognized as being almost wholly contained in the over-distended lower segment of the uterus. A drainage-tube was passed into the abdominal cavity through the rent. By virtue of the most painstaking after-treatment, the patient finally did well.

The author considers laparotomy indicated where the fœtus has been expelled into the abdominal cavity; where the secretions are already ichorous; and where there is so much hemorrhage from the rupture as to make it necessary to close it with sutures. Where, on the other hand, the child is living or but recently dead, and it seems possible to deliver *per vias naturales* without inflicting too much injury, and where but a short time has elapsed since the rupture took place, drainage should be the method of treatment. For the first two days we must depend upon the drainage-tube, but, after a wall of exudation has formed, the resulting cavity is to be treated with antiseptic injections.—*New York Med. Journal*, Oct. 1880.

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Discutient Treatment of Myomata.

At the recent meeting of the French Association for the Advancement of Science, M. COURTY read a paper upon this subject. Some myomata, he said, were general, and were treated with tonics, alteratives, and iodide and bromide of potassium; while others were specially in relation with the uterus. M. Courty relied on the following methods: 1. Injections at as high a temperature as the patient could bear (about 113° Fahr.) of water mixed with carbolic acid at the rate of twenty-five *grammes* per *litre;* this was an excellent anticongestive and antihemorrhagic means; 2. Subcutaneous injections of ergotin; 3. The electrolytic action of the continuous current applied by regulated intermittences with a metronome. M. Courty was of opinion that good results were certain if this method were used in the treatment of uterine fibro-myomata.

M. VERNEUIL believed that this method was only successful in about a third of the cases treated. Excellent in cases of fibroma of the congestive type, it had no effect on old-standing fibromata. In cases where profuse hemorrhage was noted, and in which one or two painful points were found in the tumour corresponding to the ovaries, subcutaneous injections of morphia soothed the pain, and also arrested the hemorrhage.

M. Courty allowed that cure could not always be obtained, but said that his method procured, in every instance, real and considerable relief of the suffering. In answer to a question by M. Millard, M. Courty said that an exaggerated value had been attributed to the employment of saline mineral waters in the treatment of uterine fibro-myomata. Alkaline waters were often useful in certain general conditions of the patient.

M. DENUCÉ thought that, of all the methods pointed out by M. Courty, the injection of morphia seemed to him the most effective; and he related the particulars of a case of complete resolution of a fibroma obtained in three or four months by this method.—*British Med. Journal*, Sept. 18, 1880.

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MEDICAL NEWS.

The Lesson of Memphis.

Great calamities like great orators use indeed the same words and inculcate the same wisdom with lesser ones, but speak with an eloquence which carries conviction to a far wider circle of auditors. Hence it is not perhaps too much to hope that the events of the past two years in Memphis will instruct thousands of towns and villages throughout our country in regard to the danger of drinking impure water, especially when contaminated by sewage, and at the same time point out remedies against the virulent and widely diffused disease germs, which cost us in the United States not far from fifty thousand cases of typhoid fever annually.

Every one doubtless remembers the terrible fatality of yellow fever in Memphis during the summer of 1878, and when last year the pestilence reappeared in its limits and was declared epidemic early in August, few thinking men or women failed to reflect that there must be some local cause to account for the unusual prevalence and virulence of the disease in the first instance, and its exceptional recurrence in the second. Thanks to the judicious and energetic labours of our National Health Board under whose auspices a thorough inspection of the "Bluff City" was performed last winter, we have now a positive knowledge of just what was this local cause, which so fearfully intensified the malady; and happily, thanks to the same beneficent organization, the sanitary condition of Memphis has so wonderfully improved that instead of being such an object of abhorrence that its complete abandonment and destruction were to be urged as was done in 1879, the ephemeral press actually recommended it last summer as a health resort.

According to the report of the committee charged with making a sanitary survey of Memphis (Supplement No. 3 *National Board of Health Bulletin*, Washington, D. C., March 1, 1880), the population on January 1st was 30,659 persons grouped in 7384 families occupying 5584 dwellings. The death-rate for three years previous to 1878 was 35 per 1000 (that of Philadelphia being now 17.17), for the first yellow fever year 114 per 1000 and for last year 51 per 1000. Adjoining this record of frightful mortality, which even in non-epidemic years is more than double that of our city of "Healthy Homes," is found the statement that within the city limits were discovered 6000 sub-surface cess-pools in use. These cess-pits were frequently shallow holes without any lining. More than two-thirds of them were in dangerous proximity to living rooms, many being actually excavated in the cellars of occupied dwellings. Besides

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these cess-pools, there was a large, probably an equal number of disused but unemptied vaults, the contents of which were but imperfectly covered by a thin layer of ashes or refuse. In close juxtaposition to these leaky privy vaults which must necessarily contaminate the soil for at least 30, 50, or perhaps 100 feet around their margins, were situated nearly three-fourths of the wells and cisterns which supplied the inhabitants of Memphis with a larger part of the water they consumed during their brief and feverish existence.

No student of sanitary science will, we presume, attempt to dispute the assertion that such an excessive death-rate, and such an extraordinary degree of water pollution, stand to each other in the relation of effect and cause, or could any doubt exist upon this point it must be dissipated by the positive and gratifying results already attained through the wise measures adopted by the city authorities at the recommendation of the National Board of Health. The precautions thus instituted comprised among others, the cleaning out, disinfecting, and filling up with fresh earth of all privy vaults, both used and abandoned, and the subsequent strict prohibition of any method of dealing with excreta which may cause the contamination of the surrounding soil and resulting pollution of the drinking water in cisterns and wells; the condemnation and destruction by fire of numerous houses, many of them shanties, in the lower districts, the materials of which were so saturated with disease poisons as to render them *foci* of contagion, dangerous to the public health; the enforcement of a system of building regulations providing for the alteration of existing dwellings and the erection of future edifices in accordance with the dictates of sanitary science in regard to ventilation, disposal of excreta, etc., and most important of all, the introduction of a system of sewerage substantially as advised by the well-known expert Col. Waring.

This plan of sewerage, the novel features of which particularly recommend it among communities where economy is an important object, excludes rain-water and subsoil water from the sewers, makes use of earthen pipes instead of brickwork, the dimensions of the conduits being so regulated as to secure a constant flow through them without their being at any time more than half full. According to it the sewers are to be flushed by the flow of a hundred and twelve gallons of water along each branch at regular intervals of every twelve or twenty-four hours, and must be ventilated by freely communicating pipes of their own diameter (4 inches) carried above the roof of each house which they serve to drain.

Such are the warnings which he who runs may read in the colossal letters relating the mournful story of fever-stricken Memphis, but the same sad lesson of preventable disease and death from polluted air or water is told in feebler accents by the sanitary history of a thousand small towns, ten thousand villages, and a hundred thousand country farm-houses throughout our country. In fact until public attention is fully awakened

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to this wide-spread danger, the philanthropist cannot too often repeat the caution of a distinguished British hygienist, that every case of typhoid should be looked upon, by the owner of a house in which it occurs, as an indication that there is something wrong with the water supply, or else with the method of disposing of the sewage; even if we do not reiterate the sterner *dictum* of another authority "that for each death from typhoid fever, *somebody* ought to be hanged."

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Yellow Fever on the Lower Mississippi.—A suspicious form of fever made its appearance in the early part of August in Plaquemine Parish, La., on the Lower Mississippi, and by direction of the National Board of Health, Surgeon George M. Sternberg, U. S. A., was detailed to examine the cases and determine the nature of the disease, and as the result he positively asserted the existence of yellow fever of a mild type, with a low rate of mortality, except when the disease was aggravated by vicious local conditions. In the area where this prevailed Dr. Sternberg also found a malarial fever, attributed by the local physicians to exposure in the rice harvest, which they called rice fever.

Drs. Bemiss and Mitchell, of the National Board, endorsed Surgeon Sternberg's conclusions, to wit:—

1. That yellow fever (about 100 cases) existed between August 1 and September 10 in Plaquemine Parish, Louisiana.

2. That the outbreak had its origin in the immediate vicinity of the Mississippi River quarantine station, the first case, August 1, occurring directly opposite the point where the infected bark Excelsior was detained from July 11 to August 16.

3. That while the type of the disease was generally mild, vicious local conditions existed which aggravated it into the most fatal form, four dying in one family out of five attacked.

The National Board of Health immediately placed at the disposal of the Louisiana State Board of Health ten thousand dollars for use in the necessary measures to prevent the spread of the disease. The latter, recognizing only the existence of the so-called rice fever, declined the offer of the National Board, and claimed to have "instituted such measures as it deemed necessary."

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Mr. Holmes's estimate of Antiseptic Surgery.—Mr. TIMOTHY HOLMES, Surgeon to St. George's Hospital, in his Address in Surgery, before the British Medical Association, paid a high tribute to Dr. Wm. Fergusson's efforts in behalf of Conservative Surgery—the excision of bones and joints, and made the following remark on the obligations of all surgeons to Fergusson's successor, at King's College, Mr. Lister. "It is not necessary," he said, "to believe in all Mr. Lister's theoretical views, in order to admit that no one has had more splendid success in the great object which he proposed to himself—the diminution of the mortality of surgical operations and injuries—and that no one has better deserved the abundant honours bestowed on him from every quarter, and now, I am glad to see, from this University also. When that great career has become a thing of the past, and some worthier orator shall discourse on the services which Mr. Lister has rendered to the world, he will be able to appreciate the value both of the theory and of the practice. The time has not come, I think, to pass any judgment on the former; but I regard it as my duty, as I am sure it is my very great pleasure to take every opportunity of saying that the practice which Mr. Lister has introduced has been eminently successful, and has been the chief cause of the

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great advance which operative surgery has made in recent years. It is the enviable privilege of King's College Hospital to have been served by two successive Professors of Clinical Surgery who have done more to advance that highest of all the developments of our art than any other men of their generation. Let us mingle with our reverence for the memory of the dead our gratitude for the services of the living."—*British Med. Journal*, Aug. 14, 1880.

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Medication through the Uterus.—Dr. ROBERT BARNES, in a recent clinical lecture (*Lancet*, July 24, 1880) calls attention to medication through the genital mucous membrane. He says: "Of late years a method practised by Harvey of washing out the uterine cavity when charged with noxious matter has come into vogue. The favourite agent at present in use is a solution of carbolic acid, and thus we get the twofold good of clearing the uterus of foul matter and of modifying the surface which produced it. But we may, I am persuaded, obtain a third good. We may, by throwing carbolic acid, or, better still, iodine or quinine, or sulphite of soda, into the uterus, chase the septic matters through the tissues and vessels by which it entered. We may thus, whilst cutting off further supply of poison to the system, do much to neutralize the action of that which had already entered."

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Dangerous Toys.—A plentiful and cheap supply of toys will, it is generally considered, contribute to the happiness of children and the tranquillity of their parents. The recent action of the authorities in Paris suggests, however, that this result may not always be ensured. A toy producing the symptoms of lead-poisoning is not so conducive to the diversion of children and the peace of their parents as the Parisian itinerant vendor of these wares would have us believe. A number of boxes, loaded with toys, painted in brilliant colours, elastic balls coloured and varnished, lead soldiers in every variety of uniform, have been seized by the French police. It has been proved that the colour would easily come off, particularly if the children put the toys to their mouths, a habit which seems inherent in every child's nature. These playthings, painted with poisonous colours, had been imported from Fürth, in Bavaria, and a committee of the manufacturers of that town have recently held a meeting on this subject. A circular was at once issued to all the toy manufacturers, urging them to use non-poisonous paints, and reminding them that according to the German law they had exposed themselves to penalties—fines and imprisonment. The *Gesundheit* of Frankfort justly remarks that but for the repressive measures adopted in Paris the German authorities would still neglect to enforce the German law. This apathy, according to the German papers, is all the more reprehensible as the Fürth manufacturers send their toys all over Germany, and may therefore poison the children of the fatherland as well as the little Parisians—a consideration which, in the Teutonic mind, must greatly accentuate the gravity of the question. To us the matter is not less serious. It is well known that the majority—in fact, nearly all—of the cheap toys sold in England are imported from Germany, and we regret that it is to the Parisians rather than to the English authorities that we must attribute the honour of seizing these dangerous playthings. We trust that no time will be lost in following this excellent example, and that a more strict watch will be kept to prevent the importation from abroad of poison for the nursery.—*Lancet*, Aug. 7, 1880.

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Prize Essay on Hydrophobia.—The prize of £100, offered by Mr. V. F. Bennett-Standford, for the best essay on Hydrophobia, its nature, preven-

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tion, and treatment, has been awarded to Mons. Bourrel, of Paris. It will be remembered that, at Mr. Bennett-Standford's request, the Royal College of Physicians undertook the responsibility of awarding the prize, and that they appointed a very competent committee to examine and report on the essays that might be sent in. The College, when publishing the conditions of the competition, set out several questions as especially needing investigation: such as, namely—the history and origin of outbreaks of rabies, especially in the United Kingdom and its dependencies; the best mode of prevention of rabies; the characteristics of it during life, and the anatomical and chemical changes associated with the disease, particularly in its commencement; the origin of hydrophobia in man; the chemical and anatomical morbid changes observed in the subjects of the disease; with special reference to any such changes in the nervous system, and in the salivary glands; the diagnosis of the disease in doubtful cases; the alleged prolonged latency of the malady; and the subjects of treatment, prophylactic and curative. Nineteen essays, some of them of very considerable length and fulness of detail, were received; and the labour of examining them critically must have been anything but a light one. But the adjudicators have, within a very reasonable time, presented their report, upon which the prize has, as stated above, been awarded to Mons. Bourrel.—*Med. Times and Gazette*, Aug. 21, 1880.

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Remedies for Tænia.—Dr. BERENGER FÉRAUD, as a result of trials on a large scale of the different remedies for tænia, comes to the conclusion that the most powerful and certain of these is pelletiérine, the active principle of pomegranate bark.

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A Munificent Bequest.—FRANCESCO RIZZOLI, Professor of Surgery at the University of Bologna, who died recently, has bequeathed his vast wealth, estimated at nearly 6,000,000 francs, to the Municipality of Bologna, with the stipulation that it should be devoted to the completion and maintenance of the Model Orthopædic Hospital on his estate at San Michele, in Bosco, an institution on which he had, during his lifetime, expended a sum of 2,000,000 francs.—*Lancet*, Sept. 18, 1880.

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Cremation.—A memorial in behalf of cremation was largely signed at the Cambridge meeting of the British Medical Association. Mr. Spencer Wells has it in charge.

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Bad Food at Bellevue Hospital.—The House Staff at Bellevue Hospital complain in the *New York Tribune*, that their food is of such wretched quality, and so badly cooked that it is impossible to live on the hospital fare alone, and that as a result of the diet, about one-half of the staff are worn out and sick upon the expiration of their term of service at the hospital.

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Hospital Sunday.—The London Hospital Sunday Fund of the present year has reached upwards of $130,000.

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Canada Medical Association.—The thirteenth annual meeting of this association was held at Ottawa, September 1st and 2d, Dr. R. P. Howard, of Montreal, President, in the chair. The Americal Medical Association was represented by Drs. Brodie, of Michigan, and Brush and Goodwillie, of New York. The following officers were elected for the ensuing year: President, Dr. Caniff, of

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Toronto. Vice-Presidents, Drs. J. A. Mullin, G. E. Fenwick, McNeil Parker, and J. Christie. General Secretary, A. H. David, M.D., of Montreal. The next meeting will be held at Halifax on the first Wednesday of August, 1881.

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American Academy of Medicine.—The fifth annual meeting of the Academy was held at Providence, September 28th and 29th. Dr. F. D. Lente, of New York, President, in the chair. Twenty-four of the one hundred and nineteen members were present. Dr. Lente delivered the annual address upon the Higher Education of Medical Men, and its Influence upon the Profession and the Public.

The following officers were elected for the ensuing year: President, Dr. Edward T. Caswell, of Providence, R. I. Vice-Presidents, Drs. H. O. Marcy, of Cambridge; W. T. Taylor, of Philadelphia; Howard Pinkney, of New York; and Horace Lathrop, of Cooperstown. Secretary and Treasurer, Dr. R. J. Dunglison, of Philadelphia. The next meeting will be held in New York, on the third Tuesday in September, 1881.

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The American Public Health Association will hold its eighth annual meeting in New Orleans, December 7th, 1880, under the Presidency of Dr. John S. Billings. Papers will be presented on Abattoirs, Epidemics, Life Insurance in its relation to the Public Health, The Storm-water question in City Sewerage, The Sanitary Engineering problems of the Mississippi River, The Hygiene of Emigrant Ships, The prevention of Venereal Diseases, Voluntary Sanitary Associations, etc. etc.

The special questions suggested for discussion at this meeting in addition to those connected with the papers above referred to, relate to methods of preventing the spread within a town or city—after they have once been introduced—of such contagious or spreading diseases as Diphtheria, Scarlet Fever, Yellow Fever, Measles, Smallpox, etc., and are as follows:—

1. What are the best means of securing prompt and reliable information as to the presence and location of cases of such diseases?
2. What are the best means of securing isolation of the first or of single cases of such diseases, and what are the chief difficulties in securing such isolation?
3. Under what circumstances is it proper to declare such diseases epidemic in a place?
4. Under what circumstances is it proper to recommend the closure of schools on account of the prevalence of such diseases?
5. What precautions should be taken at the termination of each case as to—
   a.—Care and disposal of the dead?
   b.—Disinfection and cleansing of the room and house?
   c.—Period of time at which it is safe to allow the convalescent to return to school or society?

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Removal.—The *Editorial* office of the *American Journal of the Medical Sciences* and of the *Medical News and Abstract* has been removed to No. 237 South Eighteenth Street, Philadelphia.

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***To Readers and Correspondents.**—The editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession. Local papers containing reports or news items should be marked.*

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THE

MEDICAL NEWS AND ABSTRACT.

VOL. XXXVIII. No. 12. DECEMBER, 1880. WHOLE No. 456.

(For List of Contents see pp. 765-6.)

CLINICS.

Clinical Lectures.

ON COLOUR BLINDNESS.

A CLINICAL LECTURE DELIVERED AT THE JEFFERSON MEDICAL COLLEGE.

BY WILLIAM THOMSON, M.D.,

PROFESSOR OF OPHTHALMOLOGY IN THE JEFFERSON MEDICAL COLLEGE, ETC.

GENTLEMEN: The serious optical defect which I shall describe to you to-day has recently evoked a discussion throughout the civilized world, which has gone far beyond the limits of our profession, has excited the attention of the public everywhere, and has produced an agitation which has led to important legislation in Europe and America, and will not cease until, by the aid of experts in our profession, codes and laws have been enforced to permit ships to sail our rivers and cross our oceans without fear of collisions; and trains on our railways to rush over our land, by day or night, under the protection of wise, scientific regulations for the avoidance of preventable accidents.

The ships of all nations are compelled by law to expose, on the port side, a red light, and on the starboard a green light, from sunset to sunrise, to indicate beyond doubt the course of the ship. No other colours can be used, and these are the ones most likely to be confounded by those colour blind, so that accidents must have been, and will again be, caused by the mistake of one ship manœuvring to avoid a collision with the other under the idea that it was receding when it was approaching, the result being to bring them into contact. The law compels all steam vessels to avoid the sailing craft, and makes the former liable in damages for all losses; and I have been informed by a prominent lawyer in Baltimore, who is counsel for several steamship companies, that he is satisfied that many cases in which he has defended his companies for injuries done to sailing vessels in Chesapeake Bay, could be accounted for in no other way than by supposing that the look-out on one or other boat was colour-blind.

In the railway service the most important orders are transmitted by colours, and the safety of an entire train depends upon whether these instructions are recognized and obeyed at once. A white light, flag, banner,

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or other object, indicates *safety*, and is a permission to the engineer to proceed with speed. A green colour indicates *caution*, and directs him to be on guard, and to run slowly, and to be notified that there is danger; whilst a red signal orders him to stop at once. Where the "block signal" system is in use the road is divided into short sections by stations with telegraphic operators, and each section is protected by the red signal, which bars that section so long as a train is passing between that and the one next to it; when the second station is passed, the operator telegraphs back to the first one, the white signal is displayed, and the next train can proceed. This seems the only way to avoid those collisions that yet occur on the double track roads when trains are passing in the same direction. The last serious accident of this kind, in which thirty people lost their lives, occurred by the over-crowding of the rear platform of a car at the end of a train, held at a block station, so that the danger signal of red lights could not be seen by the engineer of an advancing train just leaving a depot. Whilst these signals are used, the engineers are willing to obey the stern demands of the public that they shall be hurried over the roads at the greatest speed, and with the least loss of time. All these precautions are rendered unavailing if an engineer, knowing of no imperfection himself, has the defect called colour blindness, and is hence unable to understand the sentiment conveyed by the colour, and confuses hopelessly the perhaps soiled white or gray of safety with the precautionary green, or the green of danger, with the peremptory halt of the red colour.

Three monographs have been published on this affection—one by Prof. Wilson, of Edinburgh, in 1855, now out of print; another by Prof. Holmgren, of Sweden, on "Colour Blindness, and its Relations to Railways and Marine," partly translated by our Smithsonian Institution; and a third, the most complete, by Dr. B. Joy Jeffries, of Boston, in 1880, on "Colour Blindness; its Dangers and its Detection." And to the latter I would refer those who desire to acquaint themselves minutely with all that is known historically and scientifically of this now important subject. To the energy and the wise and well-directed labours of Dr. Jeffries we owe all of the efforts that are now being made to influence the General Government at Washington, the Legislatures of States, and the Managements of our great steamship and railway companies to perfect and insist upon the examinations of all persons who are placed in positions where the safety of life and property may be endangered by a defect in the colour perception.

To his Majesty the King of Sweden belongs the credit of having promptly shown his practical good sense in adopting and applying in his country the proposals and methods submitted by Prof. Holmgren, and his example has been followed by the most important continental nations. No action has been taken by the English Government, but under the advice of scientists most of the important railways have instituted examinations for themselves. Here, the Army, the Navy, and the Marine Hospital service have taken independent action, but have not, as yet, adopted any general standard. All recruits for the army are now examined for colour blindness, and although this is not a cause for rejection, those found defective are disqualified for service in the signal corps. The cadets at West Point are also examined previous to their admission. The Surgeon-General of the Navy has ordered examinations by the medical officers of all persons in the navy; and in the merchant marine, all persons applying for a license as pilot must submit a certificate from a physician that the colour perception is good. This is a step in the right

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direction, but Dr. Jeffries has been urging Congress, aided by petitions signed by prominent ophthalmic surgeons and other scientific gentlemen, to aid in calling, in conjunction with foreign governments, an interntional congress, to which should be referred the task of establishing international standards of visual acuteness and colour perception. These advances are in response to the action of the ophthalmic section of the British Medical Association, which has passed resolutions, and forwarded them to the British Government, and to the International Ophthalmological Congress which recently met at Milan. It is to be hoped that our government may take favourable action this winter, and appoint persons to represent our interests at that congress.

You may well ask me now, What is colour blindness? It means that, with the most perfect sharpness of sight for "form," a person may be unable to distinguish between two colours as pronounced as bright red and pure green; to whom the crimson cherries on a tree, although perfectly recognized, would have the same colour as the green leaves. Remember, there is no blindness proper—all coloured objects are seen; but these colours are not recognized as the normal-eyed persons see them. The colour-blind see yellow and blue or violet with normal perception perhaps, but are unable to see any violent contrast between green and red, and would, perhaps, match a red with a green colour. I speak, now, of what we call, practically, colour blindness, since I must say that more scientifically it means one class who are green-red colour-blind, and so numerous as to number four in every hundred men; and a second class, viz., violet-yellow blind, so rare as to be seldom observed; so that hereafter we will be understood when we speak of men colour-blind, to include those who see only yellow and blue, but have the green and red tints undistinguishable. It must also be remembered that the colour-blind are often ignorant of the defect, that they see coloured objects, and distinguish them by the same names that others not colour-blind do, and that their defect cannot be ascertained by asking them to give names for colours, but that all our tests, therefore, are now based upon their inability to select colours to match those that are submitted as tests. Dr. Jeffries sums up this subject by stating that "the colour sense of colour-blind may be described as follows: The red-blind sees all objects of this colour of a darker hue than they are. The same of the green-blind as to green. Both confound these colours with each other and gray. A mixture of white and black in proper proportions to represent the luminosity of any shade of red or green will give the colour-blind the same sensation as that shade. The violet-yellow-blind will do the same in reference to all colours containing either of these two. Violet blindness is so extremely rare, and not causing danger on land or sea, we may omit special discussion of it."

Imagine, now, a beam of white light decomposed by a prism into the spectrum, and projected on a screen; where the normal eye would perceive the violet, indigo, blue, green, yellow, orange, and red, in all their purity and beauty, the colour-blind see it where the violet, and blue, and the yellow colours exist; the green is light-gray, and the orange and red are gray and brown, and hence all objects which reflect green and red are to them nearly alike in tint or colour.

The theoretical discussion of this defect would lead us too far, and would involve many theories of physiological and mathematical laws of light, which can be found in the book of Dr. Jeffries. But I will only say, that we believe that this defect is due to a congenital want in the retina of those

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minute nervous elements which are stimulated, and which respond to those vibrations of light which we call red and green.

It may interest you to know that we are all in a measure colour-blind, inasmuch as our retinæ are so constructed that we have the full colour perception only at the fovea, or yellow spot, where the acuteness of vision also is the highest. We all know that without moving the eyeball we have but a small portion of the field of vision where we can perceive small objects. In reading a line of print we are obliged to move the ball so as to bring one word after the other into view, and are unable to grasp more than a small area with perfect fixation. When we experiment with coloured objects we find that the colour sense diminishes from the centre to the periphery of the field of vision in the same way that the colours of the spectrum are arranged. All the colours are seen in the small central point of view, but as we move a coloured object away from this point, without altering the point of view of the eye, the red colour is lost first, then the green, and, finally, the blue. The retina then consists of zones of different power of colour perception in the normal eye, and we are thus able to convince ourselves, by placing a vivid red a short distance from the point of fixation, that it is soon devoid of its intense colour and becomes a dusty brown; green can be recognized as a tint still further, and blue can be seen at the periphery of the field.

Is this defect frequently observed? The reports of the testing of thousands and thousands of men leave no doubt whatever that one man in every twenty-five is colour-blind as to red and green. These statistics include men of all ages—the old, and the young in schools. Dr. Jeffries alone has reported 18,000 examinations, and the percentage is always found to be a little over 4 per cent.

Its cause is congenital, frequently inherited, and is, so far as we now know, entirely incurable. Acquired colour-blindness is known to be one of the signs of inflammation of the optic nerve, ending in atrophy and blindness, and is also produced by the abuse of tobacco and alcohol, or may follow injuries affecting the head or eyes, disease of the brain, or long-continued illness, such as typhoid fever.

The most curious and unintelligible aspect of this strange defect is its rarity in the female sex, since but 1 woman in nearly 4000 was found completely colour-blind as reported in the statistics of Dr. Jeffries, against 1 man in 25.

Accept this fact, that 1 male in every 25 is born colour-blind, and is incurable, and you will realize how important it is that all males in our schools should be carefully examined before selecting any of the various trades or pursuits in which a full colour sense would be necessary for success. It is to insure safety to the growing numbers of travellers by land and water, however, that I urge upon you an acquaintance with the facts in regard to this defect, and its detection, which has now been rendered very simple.

Since the colour-blind see tints and learn to give them the names we all use, it is simply impossible to detect the colour defect by showing colours and asking them to name them. The test now accepted as the most prompt and practical is the one which Prof. Holmgren has introduced, and which is based upon the power of the normal eyes, to select from many colours offered them those to match some given test colour.

The apparatus needed then is a collection of skeins of ordinary worsted, about one hundred and fifty in number, including shades of every colour

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from white, through the tints of the spectrum to black; and three large test skeins: I. of pure green, light in tint; II. of rose or purple, a mixture of red and blue; and III. of pure red. This selection has been well revised, and can be obtained from the dealers in optical apparatus. These colours mingled together, placed on a white cloth in a good light by daytime (since no examination can be made by the yellow flame of a lamp, candle, or gas-burner) should be exposed to the view of the person examined, and he should be told to select any tints which would resemble the test skein No. I. light green, which should be placed by itself at a short distance away. The selection should be continued until a number of skeins have been chosen and thrown aside, and if only green are taken we may proceed to the next test. Where colour-blindness exists skeins of light or darker gray, light brown, or even red may be selected with test I.

Test II. is a rose or purple, and, as it is composed of red and blue, the red blind see it only as blue, and match the rose with blues, whilst the green blind select greens.

Test III., the pure red skein may then be used, and these colour-blind will select from the mass of worsteds the browns, sages, or greens, and thus betray their defect, not only by their failure to match, but by the fact that they overlook and put aside or reject colours which do match. The tints which the colour-blind select to match the large test skeins are called "colours of confusion," and they become well known to the surgeon who makes much use of this method.

Briefly, those who, with the *green* test, select grays, light browns, tan-colours, or light reds or pinks are colour-blind; but we desire to know whether they are to be classed as red or green blind, and for this purpose we notice the shades selected for the *rose* test; those who select blue and violet tints are completely *red blind;* those who select gray and green tints or any of them are completely *green blind.*

Finally, to convince any who doubt, although it is not even necessary to decide if the defect be red or green blindness, test III., the *red*, is presented, a vivid colour, like the flags used on the railways, and the examination should continue until all the tints of this colour, or a number of "confusion colours," have been placed aside; the red blind will choose, beside red, green and brown shades, which seem to the normal sense *darker* than red; on the contrary, the green blind will select opposite shades, which seem lighter than red.

Although we may classify the colour-blind into red and green blind, yet practically they both show an inability to distinguish between these, the two colours which after long experience have been selected for the important signals on land and sea; and no one can witness the examination of a person colour-blind for the first time without a deep conviction of the danger that would be incurred by leaving the safety of a ship or train to a person so unfortunately defective.

Observe now the movements of this patient when directed to look at the test I., or light green, placed three feet away, and to match the colour from the confused mass of coloured skeins placed before him on the table. He turns over the tints, looks again and again at the test, selects slowly a green, which I silently place on one side; he again with a curious movement of his hands, which betrays his defect, pushing aside the greens, which we all recognize in the worsteds, and failing to pick them out, he chooses this gray skein—now this tan colour—now another green—now a gray—now a darker tan; so we now present you his selection, which may

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well cause you surprise. Let us now ask him to match test II., this purple skein, and you perceive he selects now more promptly either purple, since they look the same, or these blues, for the man is red blind and cannot see the red colour in the mixture of red and blue which makes the purple of our test skein. Had he been more green- than red-blind he would have picked out some green and gray tints to match the purple. No one can doubt his inability to understand what we mean by colours. But we will finish by asking him to match this bright red test, No. III., and you see he selects about half his skeins of red, and the rest of dark brown.

There are perhaps ten other and more complicated methods for diagnosis of colour defect, but that of Holmgren is universally regarded as the most simple, and as giving prompt and decisive results, and for this reason I will not detain you by their descriptions.

Having been requested to aid the Pennsylvania Railway in having their employés examined, I have been compelled to devise an instrument, based on Holmgren's system, which would enable the test to be applied without the presence of any medical man, and the facts of the matching to be recorded for future reference. This became necessary from the fact that it has been found requisite to ascertain not only the colour sense, but the acuteness and range of vision, the field of vision, and the hearing, of all the employés; and as these numbered about thirty-five thousand, scattered over twenty-five hundred miles of road, and as there were not available a sufficient number of ophthalmic surgeons to make the examinations and to decide judicially and finally, therefore some other means were necessary to collect all the information, and bring it before the person who would take the responsibility of deciding upon the fitness or unfitness of the employés. A general system has been perfected and has been used for over two thousand examinations, which has fulfilled the above indications, and will soon be put in force over the entire road, by which, upon a blank, all the facts requisite for a decision can be placed by any intelligent non-medical person.

For the colour perception I have used an instrument composed of two narrow, flat sticks hinged together at one end, and fastened by a catch at the other, between which are forty buttons attached to one stick, but capable of easy removal or transportation, and each one numbered from 1 to 40, the numbers being concealed by the second stick. To each button is attached a skein of worsted arranged on the following theory: Experience has taught me the "confusion colours" for the three *test* colours, viz., green, rose, and red; and I have used in my arrangement only the real colours like the *tests*, and the "confusion colours," omitting all the others and reducing the number from 150 to 40. The first twenty buttons have attached on the odd numbers various tints and shades of green, and on the even numbers the known "confusion colours." grays, tans, light browns, etc.; and this half is for the diagnosis of colour blindness. The second series, from 21 to 30 have the rose or purples on the odd numbers, and blues on the even; and the third from 31 to 40 have alternately reds and the proper confusion colours for red, viz., browns, sages, and dark olives.

A man is now placed before this instrument and told to select ten tints to match the *green* test, and if he has colour sense perfect, he promptly turns up over the stick the ten green skeins; a clerk then examines the numbers on the ten buttons, and he will find and record on a blank only odd numbers; the second, *purple*, test is then similarly treated, and next the *red*, and if no defect is found nothing but odd numbers are recorded. When

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colour-blindness is found the confusion colours, with all the tests, are on the even numbers on the buttons, and a glance at the record enables an absent supervising officer to know that the man must be colour-blind, and to verify the examination by referring to a similar instrument in his own possession.

It would be a fault if an examination should show with Test I. even numbers between 1 and 20, or any number beyond 20, for a colour-blind might select a red between 30 and 40, to match the green test; with purple test anything recorded between 20 and 30, except odd numbers, or any number below 20, or beyond 30, would indicate colour defect, and in like manner anything but odd numbers between 31 and 40 for the red test, would proclaim the defect. No great skill, and no professional knowledge is needed to make this record, and the theory of the arrangement is so simple that a glance enables one to know, from the written report of the examination, the exact colours that were selected, and to decide if they were indicative of colour blindness. I have been compelled to use this plan, or give up the hope of having these examinations made on our large railways, and that it has been entirely successful in the hands of several different examiners, whose reports have all been carefully scrutinized, is known by the fact that over four per cent. of the men have been found colour-blind, although the instrument was then less complete than it is at present, thus giving the percentage to be expected from the labours of other careful and professional observers. Many of these men were also tried by the banners and flags by daylight, and by coloured lamps by night, such as are daily and nightly in use on the road, and they made the mistakes that would be predicted from their test examinations, being unable to distinguish at once and infallibly between the soiled white (gray) flag and the green, or between the green flags and lights and the red ones.

We may conclude by the brief statement that one male in twenty-five is colour-blind, and perhaps does not even suspect it; that it is largely hereditary and congenital, and when so incurable, but may be caused by injuries, illness, or abuse of alcohol and tobacco; that he cannot correctly see the signals when dependent on colours; which experience has shown must be employed on the water and on railways, and that he is necessarily incapable of service on railways or on shipboard where his defect might lead without any doubt to the most serious disasters. The methods of examination have been rendered easy and sure, and it remains for us as protectors of the public health and safety, to do all in our power to aid the management of our railways and ships to eliminate this danger from the risks of travel.

PART OF A CLINICAL LECTURE ON AUDITORY VERTIGO.

Delivered at the National Hospital for the Epileptic and Paralyzed.

By J. HUGHLINGS JACKSON, M.D., F.R.S., etc.
Physician to the Hospital.

GENTLEMEN: We are occasionally consulted by patients for attacks of vertigo. Sometimes the attack is epileptic, and then the case is infinitely serious; sometimes, at least many think so, it is owing to dyspepsia only, and then it is a thing of comparatively little gravity. Vertigo occurs occasionally as a result of

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sexual excesses. Some weakly people are giddy and totter if they get up quickly from the recumbent position, but here the attack, if we may call it one, is artificially produced. There is another kind of vertigo which has long been known, but which is not yet widely known—auditory vertigo, or as it is often called, Ménière's disease. It is quite certain that paroxysms of exceedingly severe vertigo occur with ear disease. No experienced person can deny that, even if he denies that there is a relation of cause and effect. Whilst auditory vertigo is the most distressing to the patient, epileptic vertigo is infinitely the most serious of all paroxysms of vertigo. Epileptic vertigo, I must tell you, is often used as a name for a very slight attack of epilepsy—for cases in which there is no true vertigo. I think it would be better to use it as a name for vertigo in slight epileptic paroxysms, or at the onset of severe ones. Thus, if a patient has, in a slight paroxysm of epilepsy, or at the onset of a severe one, the sensation of external objects moving, or of himself moving, I call that sensation epileptic vertigo. I do not call a very slight attack of epilepsy epileptic vertigo if there be neither of these sensations. In no case, indeed, do I conclude that a patient has vertigo unless I learn from him that objects appear to him to move, or that he feels to move.

The diagnosis of the nature of an attack of vertigo is not always easy. We ought to investigate the simpler cases first. There is a very important vertigo we have yet to mention; one, however, which does not come on in attacks; it comes on when the patient walks. I mean vertigo from paralysis of an ocular muscle, or of several ocular muscles. To study vertigo in cases of paralysis of ocular muscles is the most methodical way of beginning the study of vertigoes in general. I think it is unwise to study auditory vertigo and epileptic vertigo before carefully investigating the much simpler case of vertigo from paralysis of ocular muscles.

Our subject to-day is auditory vertigo.[1] The term does not suggest the whole symptomatology of the affection it names, there is much more than giddiness with ear disease in a severe attack. The patient consults you for attacks of giddiness with vomiting, but the symptomatology is usually very much wider than this even. He will tell you that suddenly things seem to move—to move to one side, or to whirl round, or that he himself feels lifted up or pushed forwards. He is unsteady, and his gait is a reel, if walking be possible at all. Even when lying down he feels unsafe, and will grasp the sides of the couch. If he moves his head he is worse. The above vertigo, with reeling, is only one-half of the patient's condition. We may call the two symptoms we have mentioned locomotor symptoms. Vertigo is on the physical side incipient or rudimentary disorder of locomotion. The following additional symptoms we may call "vital." We see that the patient is pale and haggard, that there is profuse perspiration. He tells us that he feels sick, and he may vomit. He has horrible depression, he may say that he feels as if he were going to die. and not unfrequently compares his condition to that in sea-sickness. Another symptom is pain in the head.

The paroxysm may last an hour or more. I have described what occurs in a severe attack; there are minor attacks, such as a little transitory giddiness and unsteadiness. There are also still severer attacks; sometimes the patient loses consciousness. A medical man told me that the first attack occurred in the streets in London. He was taken to a hospital unconscious, and remained so for three hours. Such a seizure would give us a hard task in diagnosis from epilepsy. Subsequently he had attacks without loss of consciousness.

[1] Brown-Séquard in his lectures, "Physiology and Pathology of the Central Nervous System," 1880, p. 195, and also in "Experimental and Clinical Researches, etc.," 1853, drew attention to the serious disturbance resulting from lesions of the uditory nerves.

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In these cases there is "something wrong with the ear," or ears. Sometimes the patient has been long deaf of one ear before any attack; occasionally it happens that he is rendered deaf at his first attack; there is in other cases great noise in one ear when the paroxysm sets in, or an increase of a noise which exists betwixt the paroxysms.

In these cases the ear is the part in fault. But manifestly all the symptoms we spoke of as locomotor and vital are owing to something wrong with nervous centres. We may put it that the ear is in fault, and that the centres suffer. But this is not, I think, without qualification. Borrowing an idea from Sydney Ringer as to diminished resistance of centres in cases of migraine, I would suggest that any general lowering of health will be a factor in the production of auditory vertigo; the resistance of nervous centres being diminished, they more readily give way to the "irritations" by the ear. In another way of putting it we may say that the nervous centres are healthy in auditory vertigo, except, perhaps, for a defect in their nutrition in common with the rest of the body. They are, nevertheless, as healthy as any of the other centres, but they alone give way, they alone being worried *ab extra*. There is no reasonable doubt that the starting-point is ear disease; these particular paroxysms would not occur even in ill-health unless there were the particular defect, ear disease. I find, however, that some patients consider the diagnosis to be nonsensical. A patient may reply that he has long been deaf, and that he does not care about his ear, that he does not come to you for *that*. (Sometimes, however, he does not know himself to be deaf of one ear.) He evidently supposes you are "thinking too curiously," that you are neglecting obvious causes and explaining the ailment by far-fetched and vague theoretical reasoning. The obvious cause to him is usually stomach and liver derangement; very naturally, for he vomits and may bring up much bile. He cannot see what an old aural affection has to do with a recent sudden paroxysm of vertigo, with urgent vomiting, and great prostration. He would be better satisfied, doubtless, by being told that his attack was due to "suppressed gout," to "liver derangement," etc., for these terms are familiar to him, if the explanations given in them are not really more intelligible. Then he may tell us, in confirmation of his hypothesis, that alterative aperients put him right again, not seeing that, the affection being in its nature transitory, he must come right after a time. What Buzzard says of treatment of batches of lightning pains in tabes dorsalis applies here.[1] I don't blame the patient, although I have to combat his notions. Not many years ago I did not know that ear disease was a cause of the symptoms I have mentioned, and I do not doubt in the least that my then erroneous, but quite conscientious, explanations appeared more rational to my patients than those I give now.[2] You must not suppose that an advance in your knowledge of disease will necessarily make you more fitted to obtain your patient's confidence; it fits you to treat him better, and you must get your satisfaction out of that. If you tell a man who sees perfectly well that he has a grave condition of his optic nerves, he is often the reverse of being assured that you understand his case. The ophthalmoscopical examination which you make, simply because he has intense headache and perhaps vomiting, naturally seems to

[1] The Lancet, Feb. 14, 1880.

[2] My attention was first thoroughly drawn to the subject by a masterly paper by Knapp, Archives of Ophthalmology and Otology, vol. ii., No. 1. I gave a short *résumé* of previous opinions on this disease, *Med. Times and Gazette*, Aug. 17, 1872. Charcot has published one of the most important cases of Menière's disease. I have given an account of this in the *London Medical Journal*, April 22 and 29, 1874. A brief account of Ménière's disease is given by Ramskill, in Reynolds's System of Medicine, the first account by a physician in the country, I believe.

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him quite irrelevant. If you told him that he was suffering from severe biliousness he might be satisfied. He may, indeed, reply to the expression of your opinion that he *knows* it to be "all liver," and, perhaps, may add that he was always very bilious. One great thing you wish to do is to prevent his becoming blind, but if your iodide of potassium makes him "more bilious" very likely you do not see him again. In intense headache we should always use the ophthalmoscope, and if, as very often happens, you discover nothing wrong in a patient's eyes, he evidently feels that he scores one; he *knew* there was nothing wrong with his eyes. Similarly he often *knows* that there is nothing the matter with his heart, lungs, and kidneys, although we are obliged to examine the chest and urine as a matter of routine. If you get to know that hypermetropia is an occasional cause of severe head trouble, totally incapacitating the subject of it for study, you are in error if you suppose that a correct diagnosis founded on such knowledge will always be acceptable to the patient. Very naturally when he finds that, for a time at least, he can read small type, such an explanation of his symptoms appears to him simply absurd. Many of our patients seem to wish to have a conversation on their cases on some basis (gout, liver, rheumatism, etc.), which makes them feel that they follow the doctor in his investigations, and understand his conclusion. They cannot appreciate a scientific medical investigation. If a patient "who knows something of medical matters" consults you for amaurosis (simple optic atrophy), he naturally thinks you are wandering when, after looking into his eyes, you ask about pains in his legs, and then "tap his knees." If you took his view that the lightning pains in his legs were rheumatic, and that his failure of sight was owing to rheumatism of the optic nerves or their centres, he would be more in harmony with you.

Even medical men who have aural disease very often totally reject the proffered explanation of their attacks of vertigo; many of them also ascribe the ailment to digestive troubles. A medical man had deafness of his left ear, with occasional slight vertigo. One day, walking in his garden, he had pain in his head, was very giddy, fell in some shrubs, and vomited. This was plainly ear-vertigo, as he himself knew. But he had had the following diagnoses made of his case by other medical men—(1) Nothing, (2) Nervousness, (3) Deranged stomach.

Be very careful how you interpret acute digestive symptoms. They may be effects, not causes. I imagine that in at least one in five cases of epilepsy the first paroxysm is erroneously put down to stomach derangement. Migraine, unquestionably a nervous affection, is very often similarly explained, and indeed goes under the unfortunate name of "sick headache." Besides, it is very common for cases of fatal brain disease to be explained away in their earliest stages as being caused in this simple manner. It is quite true that as we get older in practice we attach more and more importance to the state of our patient's alimentary system, for plainly our operations are often based on its condition. We always inquire nowadays about our patient's digestion and regulate his diet, whatever ailment he may have, just as we examine his urine, heart, and arteries. But for my part I attach less and less importance to abnormal states of the digestive system as direct *causes* of definite nervous symptoms. Very often there is no other warrant for the diagnosis of liver affection in cases of intense headache, of vertigo, and of transient loss of consciousness, than sickness and vomiting, with the appearance, perhaps, of bile in vomit. If any one from any cause vomits long enough and strongly enough he will bring up bile; indeed, I should take a plentiful supply of bile in the vomit as evidence that the liver was working well. Vomiting is a very general symptom. I mean that it occurs under very many different circumstances —"shock," passage of a biliary or renal calculus, tubercular meningitis, tumour

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of the brain, migraine, ear disease; then there are the "gastric crises" of tabes dorsalis (Charcot). You do quite right, of course, to note the "stomach symptoms" in auditory vertigo, but you should inquire as to the state of digestion in the intervals of the attacks, when it is often quite good. When the digestion is right in the intervals the "dyspepsia" is paroxysmal, is part of the paroxysm, and no doubt depends on something wrong, not at the stomach end, but at or acting on the central end of the pneumogastric nerve. In a masterly article on "Vomiting in Connection with Cerebral Disease,"[1] Ferrier brings evidence to show that in cases of vomiting from cerebral or any other disease or morbid condition, irritation of the vagus, centrally or peripherically, is the one thing in common to all. I think it is a good piece of work to make a comparative clinical study of the paroxysmal dyspeptic symptoms of migraine, auditory vertigo, and of those in some cases of tabes dorsalis ("gastric crises" of Charcot).

There is, however, described a "stomach vertigo," and as one of the describers of it is Trousseau, we must consider this matter with great respect. If you will read what Niemeyer calls Trousseau's "life-like description" of it, you will find that he does not really make out a strong case. He says that the attacks generally come on long after digestion, that sometimes a small quantity of food prevents an attack or stops it if it has begun, that stomach vertigo does not differ greatly from auditory vertigo, that the "slightest cause" may bring it on, as a sudden movement of the head, or looking at a range of bars, a trellised wall, or a striped pattern in the hangings of a room. I will read an extract from Niemeyer's well-known work. "As above mentioned, Trousseau believes that these attacks of dizziness depend on dyspepsia; at the same time he acknowledges that in many cases the signs of dyspepsia are so slight as to be readily overlooked. He relates cases of the successful treatment of 'vertige stomacale' by the alternate administration of infusion of quassia and a composition of carbonates of the alkalies. Even from this prescription I have never seen any benefit, and while I must acknowledge that the first attacks of dizziness affecting the patients that I have seen usually occurred after an indigestion, and were accompanied by dyspeptic symptoms, still in none of them were there evident signs of indigestion during the subsequent attacks, which often continued for years. I believe the repetition of the attacks of dizziness to be due to psychical causes." Observe how cautiously Niemeyer writes "usually *occurred after* an indigestion," and "were *accompanied* by dyspeptic symptoms;" he does not say "caused by." Curiously, some people deaf of one ear do not know it until it is pointed out to them. Hence Gowers has well said: "The fact that the patient may be unconscious of a most significant auditory defect lessens the value of former observations as evidence of the definite character of stomachal vertigo."[2] I think Gowers will turn out to be right in what he has further written: "My own conviction is that, in the vast majority of the cases in which a vertigo of definite and uniform character is apparently excited by gastric disturbance, an auditory defect will be discovered on careful examination." I confess that I do not believe that a sudden and severe attack of giddiness would occur from dyspepsia, if there were not some flaw elsewhere. Of course, common sense leads us to treat dyspepsia whenever we meet with it; all would agree in this. But we must be careful lest we treat for it when it does not exist; and if there be dyspepsia, we must not neglect to care for other conditions which may not depend on the dyspepsia, or only very indirectly depend on it. I do not deny that ordinary dyspepsia, nor the dyspepsia artificially induced by over-indulgence, may be a factor. I think that dyspepsia, or any other cause of lowering of general health, is a factor in

[1] Brain, Part 6, July, 1879.

[2] Brit. Med. Jour., April 7, 1877.

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producing or allowing paroxysms both of migraine and auditory vertigo. This was in principle admitted when we referred to Sydney Ringer's opinions. Gowers has put the question very clearly: "In persons the subjects of ordinary vertigo, whose equilibrium nerves and centres are damaged, a primary gastric disturbance seems sometimes to excite a paroxysm of the special vertigo to which they are liable, and the gastric disturbance which thus brings on the attack is naturally regarded as its only antecedent." An admirable observer, Dr. Russell of Birmingham, has described the case of a woman who had symptoms of gastric ulcer and paroxysm of "definite" vertigo, and no sort of ear affection; but he says that "some proclivity in one of the vaso-motor centres, or in some other part of the nervous tract involved, must be presupposed."[1]

To return to our special topic. No one need diagnose ear vertigo when there is nothing aural to get hold of. On any view, we should note the presence of ear trouble, if there be any, whether it is accepted as causative or not. This we are bound to do. If any one believes that a patient's attacks of headache are really owing to deranged digestion, he is bound to take heed of any retinal projections there may be in the paroxysms (vibrating air, fortification outline, etc.), and of the mode of their progression over the field of vision. He has to hold his hypothesis, not by ignoring these "definite" projections, but after fully considering them. Then, as Gowers points out, we have to note the kind of vertigo. To use again an expression of his, it is often "definite." Is it likely that when it is so particular that objects appear to be displaced to one side that stomach derangement is the cause of it? Is it not, on the contrary, more likely to be owing to some local lesion in the centres, even if not to disturbance of them by ear disease? And if there were no deafness, it would be rash to say there was no ear disease. I spoke also of retinal projections in some cases of migraine as being "definite." Is dyspepsia or any ailment affecting the nervous system generally likely to be the cause of a migraine with projections creeping over the field from one side towards the other? I entreat of you to inquire into the state of the ear in all cases of paroxysmal vertigo. I am ashamed to confess that I nearly made a very great diagnostic blunder recently by neglecting what I am now urging on you. Of course, you must not put down all paroxysmal affections, even starting with giddiness, as a matter of course to aural affection, even when there is such affection. Some attacks of epilepsy begin by noise in one ear;[2] in some cases of epilepsy and of epileptiform seizures there is organic ear disease, and probably a causative relation. These two kinds of cases differ *toto cœlo* from one another, and each also from cases of Ménière's disease.

I will now recapitulate and also adduce further evidence showing the relation betwixt ear disease and paroxysm, in which there is vertigo with vital symptoms, or in which there is ear disease with a slight and transient vertigo which is often definite. (1) There often is ear disease in the severest cases of vertigo. (2) Often the patient becomes deaf at his first seizure, and remains so afterwards. (3) When deaf of one ear (either before or after his first attack), suddenly turning the head in one direction may make him slightly giddy. (*a*) Thus one of my patients whose ear disease was right was a little giddy when he turned over to the left in bed. He had severe paroxysms also. (*b*) A medical man, whose ear

[1] Med. Times and Gazette, March 8, 1879.

[2] I have published two cases of this kind without autopsy in *The Lancet* of March 11, 1876, p. 386. Recently I have, as Gowers mentions in his second Gulstonian Lecture (*The Lancet*, March 20, 1880, p. 435), had an autopsy in a case of epilepsy, or epileptiform convulsions, in which noise in one ear was the "aura." Gowers examined the specimen for me, and found tumours in the opposite side of the brain.

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disease is right, tells me in a letter, "The third attack was brought on by a sudden turn from right to left when lying in bed, when the giddiness and confusion lasted for eight or ten days. I have still difficulty in lying on the left side, and could still make myself giddy by turning quickly from right to left when lying. I can turn quite well any way when in the upright position. Auscultating with the right ear a patient lying in bed, the throwing the head to the right is apt to make me a little giddy, this does not occur when the head is thrown to the left." (*c*) Buzzard reports of a patient *subject to paroxysms of auditory* vertigo:[1] "The patient, deaf of the left ear and with noise in it, kept his bed three or four months, unable to turn his head to the left." These facts are, I believe, to be trusted. I must say, however, that the statements of patients as to side of body turned to or side affected in paroxysms of any kind are not to be confidently relied upon. (4) Some patients deaf and subject to attacks may make themselves a little giddy by pressure on the ear. Schwabach reports a case of discharge from the left ear, in which pressure above and below the left auricle caused the eyes to oscillate horizontally to the left side, and slightly downwards—that is to say, the pressure produced a physical condition for vertigo; moreover, the patient felt giddy. I take the following from a paper by Maas:[2] "Of late E. Pflüger observed a case of formation of polypi on the posterior wall of the external auditory canal, close to the membrana tympani. When the polypi were touched with a probe, oscillatory movements in the horizontal direction ensued in both eyeballs." Flourens and other physiologists give oscillation of the eyeballs as one result of experimental injury of the semicircular canals. (5) Syringing the ear in some patients with aural disease produces an attack of auditory vertigo. Every medical man has seen patients thus treated ghastly pale, and reeling. In Schwabach's patient the oscillatory movements of the eyes were repeated in a lesser degree on syringing the ear. (6) Some foreign bodies in the ear produce great misery. I do not know, however, that they produce paroxysms like those of Ménière's disease. You are aware that the pneumogastric nerve sends a branch to the membrana tympani—some say to enable us to hear the dinner-bell. The membrana tympani receives branches from the fifth also. Possibly irritation of the pneumogastric branch is in great measure to blame for such symptoms as occurred in the following case. The case is of some interest; possibly it is a very common one in aural practice. For the notes of it I am indebted to Mr. Lewis Mackenzie, formerly house-physician at the London Hospital:—

About 12.30 P. M. on Dec. 30, 1872, John D., aged twenty-two, a strong-built soldier, came into the receiving-room of this hospital in a state of great mental excitement. His face was much congested, the conjunctivæ were suffused, and for the moment it seemed as if he were the subject of a delirium from drink. He was complaining in an excited manner of a "buzzing" in the right ear, and of intense pain, the character of which he could not describe. He frequently repeated that "he would go mad if not relieved." His head rested with his right ear on the palm of his right hand, and it was noticed that he frequently walked round and round, and always from right to left. The house-surgeon had some difficulty in getting him to be quiet, and explain his sufferings. When asked how long he had had the pain, he said since he got out of bed in the morning; in fact he awoke in great pain, "The pain woke me, but has got worse and worse." Whilst I was deliberating as to the diagnosis, the patient said, "It feels like a large insect in my ear." This leading observation at once suggested

[1] Clinical Society, *The Lancet*, March 4, 1876.

[2] Archives of Ophthalmology and Otology, vol. vii. p. 493.

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an examination of the ear. Nothing was seen by ordinary examination, but with an ear speculum and reflected light from a mirror all the tissures appeared healthy, but on more close examination a small black dot was seen at the anterior wall of the tympanum and its junction with the mucous membrane of the external ear, and moving about as if trying to scratch its way betwixt the membrana tympani and the wall of the meatus. One syringeful of water brought out the offender, which proved to be a louse of rather large size, and dark. The patient was *at once relieved*, though his ear still felt "queer." He left the hospital in a state of intense gratitude.

(7) There are the well-known experiments of Flourens on the semicircular canals, narrated in every text-book of physiology. (8) There are the recent inestimable experiments of Cyon, carrying us a long way further than those of Flourens. (9) There are the researches of Mach and Crum Brown into the functions of the semicircular canals; these researches are of great value; by showing the particular importance of these canals in health they indirectly enforce the opinion that diseases of them may produce definite locomotor symptoms; they are also most valuable contributions to the physiology of the nervous system.

My chief subject is the paroxysm, but there are "chronic" cases. I speak of these to enforce that vertigo and reeling may have a causative relation with ear disease, that not only do "attacks" of vertigo go with it, but that more continuous vertigo does also; in some cases there are both attacks and frequent or continuous reeling. Of course, there is another difference betwixt the two than that of acuteness and chronicity, which, however, for our present empirical purpose, does not concern us. A few persons with ear disease nearly always, or for very long periods, walk unsteadily; they have to walk with attention, and sometimes with their legs too widely apart; they feel slightly giddy; they may walk as if slightly drunk. If the deaf patient comes to you walking well, and yet complains that he frequently is unsteady, you should get him to walk a short distance with closed eyes. All sorts of bad walkings are made worse by closing the eyes, although none so much worse as the gait in locomotor ataxy. I will mention only one case of this kind. I have recorded it in *Brain*, Part 5, vol. ii., April, 1879, partly from notes by Mr. Lewis Mackenzie. It looks to me like a production of chronic vertigo and reeling by experimental injury of one ear. A medical man, after firing a heavily-loaded gun, felt giddy and stunned, and walked badly. Since he has been partly deaf of the right ear, has had noise in it, and has tended to the left side in walking; when arm in arm with some one he would pull or push his companion to the left, according to the arm hooked to. His wife had often to remind him that he walked to the left. He is never without the noise in the right ear. This case is, so to speak, the production of "half a reel" by injury of one ear.

In the case last mentioned there were no paroxysms, but, as already said, there are cases with both severe paroxysms and interparoxysmal slight symptoms. Some patients have strong paroxysms and frequent slight ones. A patient, under the care of my colleague, Dr. Buzzard, besides having strong paroxysms, has what he calls "staggerings" five or six times a day, or even in an hour. He has a feeling of sickness when they come on.

So far we have only empirical evidence of various kinds to show that there is a relation betwixt ear disease and certain nervous symptoms. That there should be is a necessary outcome of very old physiological researches on animals, and of the very recent ones of Cyon.—*Lancet*, Oct. 2, 1880.

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MONTHLY ABSTRACT.

Anatomy and Physiology.

Reflex Action in the Vessels of the Eye.

By means of a series of experiments, MOOREN and RUMPF have proved (*Centralblatt für die Med. Wissenschaft.*, No. 19, 1880) that direct irritation of the iris in the rabbit causes injection of the vessels of the eye irritated, and, at the same time, anæmia of the vessels of the fellow eye. This anæmia is followed by injection when the irritation ceases. By repetition of the irritation, it is possible to produce in the fellow eye discoloration of the iris, narrowness of the pupil, and turbidity of the aqueous humour. By the use of ether, anæmia is produced in the eye subjected to its action, hyperæmia in the other; and subsequently a reversal of these conditions occurs as before. The authors conclude that the vessels of the two eyes stand in a close antagonistic relation to each other, and that alterations in the amount of vascular contraction lead readily to inflammation, exudation of white corpuscles, and stasis of lymph. They maintain that the theory which explains sympathetic ophthalmia by reflex action from the ciliary nerves of the one side to those of the other, now rests upon a real and physiological basis.—*London Med. Record*, Oct. 15, 1880.

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The Contractions and Convulsions Obtained by Stimulations of the Brain.

PITRES and FRANÇOIS-FRANCK (*Travaux du Laboratoire de M. Marey*, 1880) have studied graphically the contractions resulting from the stimulation of the brain. A single electric shock produces, when sent through the motor centre, a single contraction as when the nerve is stimulated. A series of shocks (about forty-five in a second in the dog) produce a permanent contraction. Single shocks, individually too weak to produce contraction, by summation call forth a spasm. Strong stimulation of one hemisphere calls forth contraction on both sides of the body. Stronger currents are necessary to stimulate the white matter than the gray; but the time of reaction is shorter in the former. Tetanus may be obtained by rapid stimulations of the internal capsule (sixty a second), but does not show the same fusion of the individual contractions seen elsewhere.—*London Med. Record*, Oct. 15, 1880.

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Galvano-Hypnotism.

Professor EULENBURG (*Wiener Klinik*, No 3, 1880) shows that in favourable subjects the supposed hypnotic effects of electricity may be due to many other causes. He describes one case, however, where the galvanic current clearly threw the patient into a hypnotic condition. She was hysterical, with left hemianæsthesia, and was subject to fits of lethargy. The left hemisphere and nerves of special sense were unexcitable by the current; a condition, however, which yielded to treatment and gave place to a galvanic hyperæsthesia. At the same time the passage of the current through the head (negative pole to neck, and bifurcated positive to mastoid processes) was noticed, if kept up for about five minutes, to produce a condition of hypnotism, into which the patient sank not gradually but quite suddenly. Consciousness was quite extinct; some of the

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cerebral reflexes were much diminished; and gentle stroking of the skin, of the hand for instance, was followed with muscular rigidity of the part, gradually extending over the whole body. The usual means sufficed to arouse her, but a long time elapsed before she had recovered fully her senses. Active continuation of passively induced movements was not observed in this case.—*London Med. Record*, Oct. 15, 1880.

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The Effects of the Lightning-Stroke on the Animal Organism.

Professor NOTHNAGEL relates (Virchow's *Archiv*, May, 1880) some experiments he made on rabbits with the Leyden jar. He found that sufficiently powerful sparks produced a localized anæsthesia of transient nature. The extent of the lesion was proportional to the density of the electrical fluid, that is, to its quantity divided by the diameter of the limb. At the same time the motor fibres were temporarily paralyzed, the duration of the paralysis being about the same as that of the loss of sensation. The faradic excitability of the paralyzed nerves was diminished. The author next describes a case where a man was struck by lightning on his right hand, which became completely paralyzed and anæsthetic, and remained so for ten weeks. The recovery was sudden and rapid; in two days the hand became quite well again, and remained so for six years, when suddenly both sensation and motion disappeared from it. Three months after this occurrence, he was admitted into the hospital. He was submitted to the usual electro-therapeutic measures during a few days, but without the slightest benefit. One day, however, it occurred to Professor Nothnagel, who was then experimenting with the magnet on a case of hemianæsthesia, to apply the latter to the paralyzed hand. His astonishment was great on finding that within three-quarters of an hour sensation and motility were returning. Further applications of the magnet were followed by a complete recovery, and a few days afterwards the patient resumed his work. No transfer was observed.—*London Med. Record*, Oct. 15, 1880.

Materia Medica and Therapeutics.

Resorcin as an Antidote.

Professor LICHTHEIM, of Berne (*Correspondenzblatt für Schweizer Aerzte*, July 15), has made researches on the action of this body which indicate that we possess in it a powerful antipyretic, which in several respects is preferable, in regard to the extent and security of its action, to quinine and salicylic acid. If a dose of two or three grammes (30 to 45 grains) of resorcin be given in solution or in substance to a patient in a high state of fever, the first signs of its action show themselves after a few minutes. Giddiness and buzzing in the ears occur, the face becomes reddened, the eyes are brighter than before, the breathing is quickened, and the pulse more frequent by several beats, and generally somewhat irregular. Ten to fifteen minutes after the dose, the skin begins to become moist, perspiration becomes gradually stronger, and after fifteen minutes more the whole body is bathed in sweat. With this outbreak of sweating the symptoms of stimulation which first occur disappear; the giddiness and buzzing in the ears have usually passed off in about fifteen minutes after the taking of the medicine, and a rapid defervescence occurs at the same time with active sweating. The frequency of pulse and the temperature are quickly reduced, and within an hour after the administration of the medicine both have fallen to the normal standard. The secretion of sweat has meantime stopped; the skin of the patient is moist

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and cool, and his general condition is that of an individual free from fever; the amount of difference of temperature in such cases is about three degrees centigrade (5.4 Fahr.) or more; the frequency of the pulse sinks more than a third. These marked effects are, however, by no means always to be observed. A very great difference in the resistance of fevers to resorcin is to be noted, and here the same rules apply as in the action of the antipyretic agents already known. The less the tendency to spontaneous remissions, the less is the antipyretic effect of resorcin. The fevers of pneumonia and erysipelas are in general more obstinate than that of typhoid fever, and severe typhus in the first stage is controlled by resorcin much less promptly or much less adequately than the mild forms. On the other hand, resorcin does not completely fail, according to Lichtheim's experience, even in the most obstinate fever. Temperature and frequency of pulse fall also in these cases; only the fall of temperature often does not amount to more than one or two degrees (centigrade), and the pulse-beat to a corresponding extent. An unmistakable parallelism exists between the extent of secretion of sweat and the intensity of the defervescence, and the more marked these were, the greater is the fall of temperature.

Although resorcin has advantages over salicylic acid and quinine in respect to the certainty of its action and the extent of its effect, the duration of its action is much less than that of the above-mentioned remedies. Within two hours after its administration, and generally after three to four hours, the temperature begins to rise; and it rapidly ascends to its previous point, the patient meantime complaining of a sensation of cold, which sometimes amounts to a severe rigor. An hour later the temperature and frequency of pulse will be found at the former point, and the general state of the patient corresponding to it.

A great disadvantage of resorcin lies in the preliminary stage of excitement, to which reference has already been made. These symptoms of stimulation show themselves very strongly in a number of cases. Even in the milder forms, morning respiration is often noticeable, together with an increase in the frequency of respiration; and the tardy answers which the patient gives show that he is in a state resembling intoxication. In other cases these cerebral symptoms are much more marked: the patients begin to be delirious, they do not know where they are, they talk wildly, and their expressions indicate that they have illusions; speech becomes sometimes muttering and difficult to understand, and often there is at the same time a slight convulsive trembling of the hands and fingers. One patient fell into a deep sleep, from which he could not be aroused, but from which at the commencement of the defervescence he awoke without any unpleasant symptoms. The latter observation, which is unique, was, however, not made by Lichtheim himself.

All efforts which Lichtheim has made up to this time in order to lessen these collateral effects, without injuring the antipyretic effect of the medicine, have been without result. Even when resorcin was combined with salicylic acid, these phenomena of excitement occurred, although they were not very strongly marked. The effect of a dose of two grammes of resorcin on a patient to whom some hours before two grammes of salicylate of soda had been administered, was one of unusually long duration. According to Lichtheim, this phenomenon of excitement is the only difficulty which opposes the general use of resorcin as an antipyretic, especially in private practice. He especially mentions that an existing albuminuria was not increased by the use of resorcin, and that he has never seen any symptoms of collapse either during or after the administration of resorcin. He rejects the idea with certainty that resorcin can exercise any specific action on pneumonia, erysipelas, or enteric fever; on the other hand, it seems to him to be an antidote to intermittent fever. He refers, indeed, to only two cases. In

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the first case, a quotidian fever with large tumour of the spleen, after a typical attack, he administered two grammes of resorcin at the beginning of the first premonitory symptoms of fever; only a very slight elevation of temperature occurred, no further attack of fever followed; the tumour of the spleen subsided very slowly, and the patient was allowed to leave at his own wish, with still a very large spleen. In the second case there was also a very old intermittent fever of the quartan type, with a large splenic tumour. The patient had gone through three paroxysms before he began the treatment. Dr. Lichtheim gave, at the commencement of the fourth attack, three grammes of resorcin. The shivering, which had already begun, passed off, but after about an hour recommenced, when two grammes of resorcin were again administered. The subjective symptoms of fever were completely cut down in the patient, although a slight elevation of the frequency of pulse and of the temperature occurred. On the next febrile day the prodromata of fever showed themselves again, but two grammes of resorcin sufficed to cut them short, and the elevation of temperature and pulse was only on a minimum scale. No subsequent attack of the fever occurred.

Together with the moderate price and much more agreeable flavour, resorcin has a great advantage over quinine, in that the administration of the medicine can be postponed to the beginning of the attack, and that, when the dose has too slight an effect, a subsequent increase of it is effectual. In this way any relapse can be prevented before an attack has fully established itself, and on the indication of the well-known prodromal symptoms. In these cases there were not any collateral symptoms, not even the slight cerebral symptoms of giddiness and buzzing in the ears.—*London Med. Record*, Oct. 15, 1880.

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Physiological Action of an Alkaloid extracted from the Garden Tulip.

Dr. SYDNEY RINGER has recently been investigating the physiological action of an alkaloid from the bulbs, leaves, and flowers of the garden tulip, and finds that tulipine differs almost entirely from the action of alkaloids derived from the plants belonging to the natural order Amaryllidaceæ so far as he has examined.

Tulipine is a muscle poison, affecting the muscles like veratria. It is, however, weaker than veratria.

It paralyzes either the cord or the afferent nerves, or both; but probably it affects the afferent nerves.

Its action on the motor nerves, if any, is but slight.

It affects the heart of frogs like veratria.

It does not affect the pupil.—*Practitioner*, Oct. 1880.

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Therapeutic Use of Pilocarpine in Skin Diseases.

In the *St. Petersburg Medic. Wochenschrift* of July 19th, appears a notice of the results obtained by Professor PICK from the use, over a space of two and a half years, of pilocarpine and its preparations in prurigo, psoriasis, eczema, pruritus, urticaria chronica, alopecia areata, trichoptilosis, alopecia pityrodes, acne, hyperidrosis, pemphigus chronicus, and lichen exsudativus, *i. e.*, in all skin affections where the secretion of sweat is more or less altered. Small doses of one-sixth of a grain in solution were ordered twice a day, one to two hours after food. Perspiration followed generally four or five minutes afterwards. After several weeks' use, unless intermitted, the dose had to be increased. The skin became softer and more pliable, scaliness diminished, and the hair was less brittle. The use of the remedy even for months in no way disturbed the general health. In 32 cases of prurigo the tormenting itchiness disappeared, and the relapses were somewhat delayed; while, again, in 25 cases of psoriasis no effect was seen. In

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two cases of pruritus senilis, and one of urticaria, a cure was accomplished. In eczema, the result was not decided. In ten cases of alopecia pityrodes, good results followed; while in four cases of alopecia areata, no decisive result was obtained.—*London Med. Record*, Oct. 15.

Physiological Action of Picrotoxine.

CHIRONE and TESTA (*Annali Universali di Medicina e Chirurgia*, April, 1880), after describing the physical characters and mode of preparation of this alkaloid, give the results obtained from a series of sixty experiments. The most important conclusions arrived at are the following: 1. Picrotoxine is capable of causing a true artificial epilepsy. 2. The epilepsy so induced is independent of the psychomotor centres, inasmuch as it is most intense after the removal of those centres. 3. Picrotoxine acts primarily on the bulb and on the commissural fibres between the cerebral and spinal centres, and secondarily on the spinal centres themselves. 4. It demonstrates the existence of a functional antagonism between the psychomotor and motor centres of the bulb and spinal cord. 5. The convulsive movements of the limbs induced by picrotoxine depend primarily upon the action of the drug on the bulb, which is thence propagated to the spinal marrow, and secondarily on its direct action on the spinal centres. 6. In frogs the influence on the spinal functions is more marked than upon the cerebral, while in dogs and the higher animals the cerebral motor centres are the most acted upon. 7. By cinchonoidine an epilepsy of cerebral, by picrotoxine an epilepsy of spinal origin, can be induced.—*London Med. Record*, Oct. 15, 1880.

Anodyne Effects of Electricity.

MÖBIUS (*Berliner Klin. Wochenschrift*, 1880, No. 35) attempts to give a *rationale* of the remarkable effects obtained from this agent in allaying the pain in neuralgia proper, and in numerous other morbid conditions. Numerous authenticated cases, and the daily experience of those who are in the habit of using electricity, show that the pains arising from a variety of organic lesions are frequently allayed by electrization; such, for instance, as those met with in caries of the spine, meningitis, articular and muscular rheumatism, dental caries, uterine derangements, and those known as "headaches," the shooting pains of ataxy, etc. In all these the current acts on the symptom pain only. The author thinks it justifiable to argue from the fact that relief is obtained in a number of dissimilar cases, to the existence of a common feature in those cases. He thinks that electricity relieves pain only inasmuch as it is purely neuralgic, depending upon a molecular condition of the nerve set up by a neighbouring lesion (or idiopathic in the case of true neuralgia). The current, therefore, is a diagnostic as well as a therapeutic agent in the case of pain. As to giving an explanation of how electricity acts in neuralgia, this is impossible for the present.—*London Med. Record*, Oct. 15, 1880.

Medicine.

The Specific Agent of Typhoid Fever.

Professor KLEBS, of Prague, believes that he has discovered the micro-organism which constitutes the specific agent of typhoid fever, and develops his views in a paper entitled "Der Ileotyphus eine Schistomy cose," published in the *Archiv für Experimentale Pathologie*, t. xii. p. 231, 1880. Professor Klebs has for a long time, assisted by his pupils, been making researches in this direction. He

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writes that he has been able to find, at the necropsy of twenty-four persons carried off by dothinenteritis, microbes in various organs: in the intestinal mucous membrane, in the thickness of the cartilages of the larynx, in the pia mater, in the foci of lobular pneumonia, in the mesenteric ganglia, in the parenchymata of the liver, and generally diffused in the organs which showed the most decided lesions. These micro-organisms showed themselves in the form of rods, about eighty micrometers in length and 0.5 to 0.6 micrometres in thickness. They have been constantly observed in the bodies of dothinenteric patients since the attention of Professor Klebs was drawn to the subject, and they are always absent from the organs, and specially the intestines, of subjects who have died from any other disease than typhoid.—*British Med. Journal*, Oct. 16, 1880.

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Successful Treatment at Ben Rhydding of Cases of Chronic Rheumatoid Arthritis.

Mr. FLETCHER LITTLE read a paper at the meeting of the Yorkshire Branch of the British Medical Association at Bradford, on June 16th, in which he described the successful treatment by the aid of the resources of this well-known establishment of several cases of this intractable and most severe disease. They were all cases occurring in women, and all of them were married. One was aged 35, another 51, and the third 67. One had suffered for fifteen months, another for three years, and the third for twelve years. In all, the grating in the joints was most distinct. All were in comfortable circumstances, but they all had gone through severe mental suffering. All showed, by the silvering of the hair, the anxious appearance, and the evident decrepitude, that decay had set in and must be stopped. All of them improved without any drawback from first to last, under patient treatment, oil-rubbing, the galvanic current, and the Russian vapour baths, applied during residence at Ben Rhydding. The patients had been previously treated by Mr. Pridgin Teale, Dr. Merriman, and others.—*London Med. Record*, Oct. 15, 1880.

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Locomotor Ataxy in several members of the same family.

At a recent meeting of the Clinical Society of London (*Lancet*, Oct. 16, 1880), Dr. GOWERS brought forward a series of five cases of locomotor ataxy in members of the same family, three of whom were exhibited. The father was healthy, but his brother and two half cousins were insane. The mother had suffered in early life from chorea. The family consisted of nine children: (1) A son, aged thirty-nine, with well-marked ataxy, which commenced at nineteen. He is just able to walk with crutches. There is incoördination in the arms and affection of articulation. Sensation to touch is normal, that to pain on the legs increased. The knee-jerk is lost. (2) A girl who died of fever at ten years old. (3) A son, aged thirty-five, healthy. (4) A son, aged thirty-three, healthy. (5) A girl, aged twenty-nine, in whom the affection commenced at eighteen. She can now scarcely stand; there is weakness in the legs, as well as ataxy, and also incoördination in the arms. Speech is affected; sensation is normal; the knee-jerk lost. (6) A son, aged twenty-six, perfectly well. (7) A son, aged twenty-three, considerably affected. The disease showed itself at nineteen; he is now scarcely able to walk, with ataxy of both arms and legs, and loss of sensation, absence of the knee-jerk, and affection of articulation. (8) A son, aged twenty-two, reported to be well, but found, on examination, to be distinctly affected. Articulation is confluent, there is inability to stand with eyes shut, absence of knee-jerk, and distinct impairment of sensation on the legs to touch. The arms are at present unaffected. (9) A son, aged nineteen, affected

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in rather a greater degree than the last, with slight unsteadiness of gait, inability to stand with eyes shut, distinct impairment of sensation to touch, absent knee-jerk, unsteadiness in writing, and confluent articulation.

The state of sexual power is doubtful, the patients being all single. Thus of eight members of the family who have reached adult life, five are affected, a daughter and four of the seven sons. The symptoms, allowing for the variations in degree, are similar in all, the chief difference being the marked impairment of the tactile sensation in the two youngest, while in the others, in whom the affection has reached a more advanced stage, it is normal, and except that in one there is hyperalgesia. The only causal influence discoverable is the neuropathic heredity.

This form of ataxy was first described as a distinct variety of ataxy by Friedreich, who recorded two groups of cases, and a few other instances have been recorded by Carré and others. Two sisters, evidently suffering from this disease, were shown in 1872 to the Medical Society of London by Dr. A. Carpenter, and in this family a brother has since become affected. Those now shown resemble Friedreich's in the early date of commencement, the affection of the arms, and the interference with speech. They differ from Friedreich's in the number of males affected and in the absence of nystagmus and in the affection of sensation in two individuals. It is noticeable that none have suffered from any pains in the limbs; there is no affection of the iris or of the optic nerve. As in Friedreich's cases, the antecedents were of other forms of nerve disturbances, not of ataxy. The term "hereditary ataxy" seems therefore of doubtful accuracy. Friedreich described the affection of speech as ataxy of articulation, but it does not differ from that seen in other degenerative diseases of the nervous system. The pathological changes were found in two of Friedreich's cases to be in the main similar to those in ordinary ataxy.

Dr. J. ALTHAUS thought that cases of ataxy were more common than usually supposed, and were often confused with paralysis. He had seen more than two hundred cases, but in none of them was more than one member of the family affected, nor could any strict heredity be traced; but in all the cases there was a neurotic tendency observed in one or both parents. Carré's cases were the most remarkable yet recorded. In one instance he states that this form of ataxy was observed in a woman, in her eight children, and in the seven children of one of the daughters—sixteen persons in all—and in three generations. It was remarkable that the pain of ordinary locomotor ataxy was quite absent in this condition, and that the affection of sensation was only slight. He thought that it would be well to follow up the history of those members of this family who were at present unaffected, and also to make careful trial of various therapeutic agents.

Dr. GREENHOW had never seen such cases before; and from the striking facts of the early age of the patients when first affected, and the complete absence of pain, thought that the disease differed from common locomotor ataxy.

Dr. GOWERS had found that ataxy was very rarely to be traced to hereditary influence; he had stated two years ago that fifty per cent. of patients suffering from it had a history of previous syphilis, and he now thought it more accurate to say that such was the case in seventy-five per cent. of cases of sporadic ataxy, in all ranks of society. Apparently the disease is the same in those cases occurring in families, as the posterior columns of the spinal cord had been found to be the seat of degeneration. One of the most remarkable facts is that the disease begins at about the age of twenty, and that any members of such a family who are free at twenty-five escape altogether. So marked a feature is this that a recent applicant for life insurance, who had three brothers and sisters thus

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diseased, but was himself unaffected and much beyond the age of twenty-five, was recommended by him for acceptance as not being prejudiced.

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Visceral Neuralgia.

Dr. NEFTEL (*Archiv für Psychiatrie und Nervenheilkunde*, Band x. p. 575) describes several cases of recto-vesical and uterine neuralgia, in which every kind of treatment, including that of the organic lesion which was supposed to be the cause of the symptoms, had proved useless. Starting from the hypothesis of a nutritive disturbance of the centres in the spinal cord, he tried the effects of the galvanic current, centrally as well as peripherally applied, with the most happy results. His method in cases of severe dysmenorrhœa is to apply a large electrode (anode) over the genito-spinal centre (Budge's), and close a current of 15 to 20 elements (Daniell's), with a plate above the pubes. A few voltaic alternations are slowly made; then the anode is passed up and down the spine (strong pressure must be exerted), whilst the current may be increased to thirty elements. The same process is repeated whilst the cathode rests upon each inguinal region successively. Relief almost invariably follows such an application. Should this not be the case, higher strengths of current are to be used. A warm drink and sharp walk are advisable after the sitting, which is to be repeated daily during the period. In the time between the monthly paroxysms a milder galvanic course is advantageously pursued towards the accomplishment of an actual cure. Perhaps much depends on the excellent results obtained by the use of a similar method in cases of other visceral neuralgiæ, of congestive and chronic inflammations of the pelvic organs, and also of the central nervous system, on the stimulation of the splanchnic nerves, and consequent extensive vaso-motor effects in the abdominal and pelvic viscera. Dr. Neftel strongly urges the use of galvanism in such cases, and supports his case with good instances. He concludes his paper by showing how a latent malarial cachexia may be unexpectedly brought to light by galvanic application.—*London Med. Record*, Oct. 15, 1880.

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Paralysis of Lower Limbs following Pelvic Abscess, or profuse loss of Blood after Abortion.

Mr. WILLIAM ADAMS, at a recent meeting of the Medical Society of London (*Lancet*, Oct. 30, 1880) read a paper entitled "Cases of Paralysis with Contraction of One Leg, following pelvic abscess in women; and of both legs following excessive loss of blood after miscarriage." The pathology of these two forms of paralysis with contraction in women is very different; one referring to damage done to the nerve trunks of the sacral plexus by inflammatory exudations, from which only imperfect recovery is likely to occur, and the other to some obscure affection of the spinal cord itself, probably involving slight structural change in the motor tract, from which a good, though not quite complete recovery may occur.

In the *first class* the accumulation of pus in a pelvic abscess, instead of advancing, as it generally does, along the iliac region, and opening through the abdominal parietes, passes backwards and upwards, opening through the rectum or vagina. The nerve trunks of the sacral plexus become imbedded in lymph, which in time contracts, and, so to speak, strangles the nerves, leading to paralysis, with loss of sensation and motion, more or less complete on the affected side, from the hip downwards. The recovery from this condition in the case brought forward has been very imperfect. After a period of four years, the limb only being rendered useful in walking by mechanical support.

In the *second class* the pathology is more obscure. In the case adduced, par-

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tial paralysis with contraction of both legs occurred within three weeks of a miscarriage, followed by excessive loss of blood, from which there seemed to be but little hope of the patient recovering. This condition was by some supposed to be the result of "myelitis from loss of blood;" by others, "spinal anæmia." Another suggested explanation was that it depended upon a purely functional derangement. Opposed to the last suggestion, Mr. Adams considered were two important objective symptoms: first, the muscular wasting and general atrophy of the legs; and, second, the peculiar atrophic condition of the skin, which was thin, white, and shiny; predisposed to tear on slight stretching, and corresponding to the so-called "glossy skin" described by Weir Mitchell, Charcot, and Paget as amongst the changes in nutrition of tissues resulting from nerve lesions. The conclusion, therefore, Mr. Adams arrived at was that structural changes had occurred in the motor tract of the spinal cord, from which considerable, though not complete, recovery has taken place up to the present time—six and a quarter years since the miscarriage. The muscles of the hip-joint, and some muscles of the legs, still remain partially paralyzed, but she is able to walk with some assistance. The surgical treatment in the late stage of contraction consists in tenotomy and gradual mechanical extension, either by the use of instruments, or weight and pulley. Forcible extension should never be employed to overcome muscular contraction. With a view of promoting the recovery from the paralysis, Mr. Adams recommended galvanism, shampooing, passive motion, and warm clothing.

Dr. ALLEN STURGE, who had examined the second patient referred to by Mr. Adams, stated that in the right leg there was very marked weakness of the flexor muscle of the thigh and of the muscles of the calf, complete paralysis of the tibialis anticus and extensor proprius pollicis, the extensors of the thigh and the peronei being nearly or quite healthy. In the left leg there was marked weakness of the psoas and iliacus, of the flexors of the thigh and of the calf muscles, the extensors of the thigh and the muscles in the front of the leg being healthy. The paralyzed muscles were almost completely wasted, and their reaction to faradaism was greatly diminished. The condition then was paralysis of groups of muscles in the two legs, with wasting and loss of electricial reaction, without loss of sensation or affection of the bladder—the exact condition seen in infantile paralysis. Dr. Sturge believed, therefore, that the lesion was the same as in the latter disease—viz., acute inflammation of the anterior horns of gray matter in the spinal cord. This condition is now well recognized as occurring in adults, and recently it has been met with as a sequel to typhoid fever and smallpox. May it not therefore occur after parturition or other acute exhausting disease?

Dr. ALTHAUS said that the paralysis in the first case was clearly owing to neuritis of the sacral plexus, the inflammation spreading from the pelvic cellular tissue to the nerves. The second case was more obscure, and he discussed the various probable conditions. He discarded the possibility of functional derangement without structural disease. Spinal anæmia occurred after hemorrhage, not only from the womb, but also from the bowels or kidneys, after profuse epistaxis, and occasionally in chloro-anæmia, leading to paraplegia; but it was invariably recovered from under appropriate treatment. Ischæmia of the cord, due to embolism or thrombosis, was clearly not present in this case. There only remained meningo-myelitis, and, looking to the early rigidity, he thought that it probably was a case of pachymeningitis with compression of the cord by inflammatory products, especially of the lateral column.

Dr. ROUTH thought cases of pelvic cellular abscess passing into paraplegia must be rare. He had not met with one in his own practice, and he thought this might be due to his habit of opening these abscesses very early. He related a case he had seen in consultation, where paralysis with contraction followed a pelvic cel-

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lulitis; and vaginal examination under chloroform revealed a fibrous mass attached to the sacrum. The copious hemorrhage in Mr. Adams's second case may have been due to a fibroid growth.

Dr. EDIS mentioned a somewhat similar case, where a lady, having fallen in the street, being four months pregnant, suffered from hemorrhage, retroflexion, and septicæmia. The latter gave rise to much anxiety, although there was no evidence of local pyæmic deposit. Within six weeks from the accident paraplegia, with contraction of the legs and thighs, occurred. This was treated by forcible extension under chloroform and by mechanical appliances, with considerable benefit.

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A Case of Aphthongia, or Spasm of the Hypoglossus.

Dr. MOSSDORF (*Centralblatt für Nervenheilkunde*, No. 1, 1880) relates an interesting case of spasm in the domain of the hypoglossus (with associated spasms of some respiratory muscles), in which the ordinary treatment for stammering had failed to produce any permanent good. Galvanization of the head and phrenic nerves was persevered in for two months without any result, but the application of strong galvanic currents with the anode at the occiput, and the cathode labile along the spine, produced within a week a marked improvement. Several short courses of this treatment at intervals have brought about what seems to be a permanent cure. The author contrasts this result with that obtained in a case of stammering from spasm produced by irritation of the right facial nerve after a blow. In this case faradization and galvanization peripherally applied failed, but the continuous current sent through the cortical centres effected a speedy cure.—*London Med. Record*, Oct. 15, 1880.

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Treatment of Dyspepsia.

M. DAMASCHINO (*Le Progrès Médical*, May, 15, 1880), defines dyspepsia as a morbid state characterized by slowness and difficulty of digestion. This definition, so uniquely symptomatic, is very accurate, for dyspepsia is only really a symptom either during the evolution of a gastric affection or in the course of or subsequent to a general malady. The etiology of dyspepsia is very varied, for age, sex, temperament, habit, and certain diatheses exercise a marked influence upon the development and course of the digestive trouble. In this way the varied symptomatic forms which are observed in this pathological condition are explicable, as well as the inefficacy of the most rational methods of treatment which is so often noticed. Amongst the numerous remedies for dyspepsia, the digestive ferments, and of these more especially pepsin, occupy the foremost place. To enable these remedies to act with certainty they ought to approximate as closely as possible to the conditions under which they act in the natural state; by the union of pepsin with hydrochloric acid a very soluble digestive ferment is obtained, which is found to possess an exceedingly energetic action; in combination with pancreatin, coca, and bitters, which increases its eupeptic action, it forms the basis of the elixir of Grez. This preparation acts not only by its own digestive properties, but also by stimulating the secretion of the gastric juice, so that it is also a peptogen. A great number of experiments have been conducted in the French hospitals, in regard to the use of this elixir in the treatment of intractable cases of dyspepsia, with a result that there has been a rapid improvement of the general condition, with a complete remission of all the symptoms, pains, gastric meteorism, eructations, and vomiting. Affections connected with stomachal vertigo, and migraine arising from functional impairment, have been rapidly cured. Digestive troubles also, which are so frequent in adults, and more especially at

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puberty, as well as in chloro-anæmia, have invariably yielded to the influences of this remedy. Phthisis is nearly always complicated with dyspepsia, often in the form of obstinate vomiting, which rapidly aggravates the condition of the patient; in such cases the elixir has afforded the most excellent results by curing the vomiting and altering the state of the alimentary canal. Rheumatic and gouty patients, who for a long time previously had digested with difficulty, have recovered their digestive functions after a few days of this treatment. Lastly, this elixir has been employed at the Children's Hospital in numerous cases of chronic diarrhœa and vomiting with the very best results, and it has even been used with success in that most severe and dangerous of the affections to which children are exposed, infantile cholera.—*Practitioner*, October, 1880.

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On Alcohol and Creasote in Infantile Diarrhœa.

In the infantile diarrhœa of infants artificially fed, Dr. DEMME, of Berne, is not content with prescribing breast-milk, but recommends alcohol in conjunction with benzoate of soda or with creasote, after the following formula (*Journal de Med. et de Chir. Pratiques*): Cognac, 2 to 5 grammes; creasote, 0.1 centigramme; pine tar, 1 to 5 grammes; distilled water, 50 grammes every twenty-four hours between the sucklings. In very young babies the quantity of alcohol—at first two grammes—should be gradually increased to five grammes. The object of this draught is at once to stimulate nutrition, and to check the too abundant formation of the micrococci which load the intestinal glands.—*London Med. Record*, Oct. 15, 1880.

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The Treatment of Bright's Disease.

In the medical clinic of Genoa during the scholastic year 1877-8 (Virchow's *Archiv*, Band 80, Heft 3), the quantity of urine and albumen, the other chief phenomena, and the influence of various methods of treatment, were ascertained in six cases of Bright's disease. For a certain number of days a fixed method of treatment was adopted, and then a change was made in another subsequent number in favour of another method, in order in this way to study the activity of the various modes of treatment. Professor DE RENZI arrived at the following conclusions: 1. When chronic Bright's disease is left entirely without treatment, in general no improvement is shown; hence this must be excluded from the category of those diseases which in many cases end in spontaneous recovery. In the first days after entering the hospital, or when the treatment is purposely left off, the patients show a considerable quantity of albumen; this rule has, however, some exceptions which have not up to the present time been well explained. 2. Fuchsin, which has lately been recommended in the treatment of Bright's disease, produces a remarkable diminution in the quantity of albumen. It was employed in two forms: dissolved in water, or, mixed with a suitable extract, in pills of 2½ centigrammes each. As, however, the strong coloration of the infusion of fuchsin in water is somewhat repulsive, Dr. De Renzi found it preferable to administer it in the pill form, and to this he has adhered in his latest prescriptions. 3. The daily daily dose of fuchsin may be much greater than that in which it has hitherto been recommended in the treatment of Bright's disease. Dr. De Renzi generally began with a very small dose of 5 centigrammes (0.75 grain), raising it to 25 centigrammes (3.8 grain), to be taken in twenty-four hours. A considerable physiological action on the principal functions of the body was observed. According to the dose of fuchsin, the urine began sooner or later to show a red colour, which maintained itself throughout the treatment. 4. The urine in Bright's disease often exhibits a great deal of mucus. Fuchsin is very useful

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against this complication, as, in a short time, it causes the complete disappearance of the mucus from the urine. 5. The mucous membrane of the digestive tract is deeply coloured by fuchsin, and the blood-plasma undergoes considerable coloration. In two cases, the quantity of hæmoglobin and the chromometric state of the blood were examined with Bizzozero's instrument with the following results: *Maria Molinari*: Cytometric state, 160; Hæmoglobin, 68.7; Chromometric state, 175. *Theresia Gabella*: Cytometric state, 115; Hæmoglobin, 29.7; Chromometric state, 112. It is evident that the increased intensity of colour is not to be ascribed to the increase of hæmoglobin, but rather to the increase of the fuchsin in the blood. 6. When fuchsin does not pass into the urine, this is an indication of an organic disturbance which must not be neglected. In these cases, it is of no use in the treatment of albuminuria. 7. Rest of the patient in bed is a very important means of diminishing the albuminuria in Bright's disease. In a patient, *Vittorio Rossi*, complete rest in bed, together with milk-diet, brought about the greatest diminution of the albumen in the urine. Dr. De Renzi was several times able to ascertain that unusually active movement of the person had a dangerous effect in Bright's disease. 8. Apomorphia was in general well tolerated; and Dr. De Renzi has ordered it in larger doses than usual (viz., 5 to 6 centigrammes daily) without causing the least disturbance. In one case, this medicine considerably improved the condition of the patient.—*London Med. Record*, Oct. 15, 1880.

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On the Treatment of Intraperitoneal Rupture of Hydatid Cysts.

At a recent meeting of the Académie de Médecine (*Le Progrès Médical*, 1880, p. 426), M. Féréol read a paper on the subject, in which he stated that in the present condition of our knowledge it is impossible to say exactly what circumstances determine the comparative mildness or malignity of the symptoms which accompany rupture of hydatid cysts into the peritoneal cavity. The following conclusions, however, may be stated with some degree of confidence. 1. Previous suppuration of the cyst gives rise in case of rupture to a subacute rapidly fatal peritonitis, at least where the peritoneum had not been sealed by adhesions which limits its inflammation. 2. The penetration into the peritoneum of an absolutely limpid and clear fluid, which appears to be inoffensive in some cases, is followed in other cases by rapidly fatal accidents. 3. The presence of living hydatids thrown into the peritoneum is less dangerous than that of dead hydatids: spontaneous cure is possible in the former case. 4. In cases where the peritonitis following rupture becomes moderated, and where, nevertheless, ascites is produced, intervention may be practised with some hope of success if the ascitic fluid be not absorbed. Simple puncture is alone sufficient to effect a cure. If this procedure fail, it may become necessary to evacuate the foreign bodies contained in the peritoneum as soon as possible. A large opening may be made into the abdomen by a trocar, and cleansing out of the peritoneal cavity twice daily may be employed with success.—*London Med. Record*, Oct. 15, 1880.

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Glycosuria.

According to modern theories, diabetes is supposed to depend, to a large extent, perhaps entirely, upon derangement of the vaso-motor mechanism of the liver. This point in the pathology of the disease has been the subject of a recent series of investigations by M. Laffont, which have been published in the *Gazette Médicale de Paris*. Claude Bernard, as is well known, showed that division of the cord between the seventh cervical and first dorsal vertebræ arrested the effects of the "diabetic puncture" of the floor of the fourth ventricle, and hence con-

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cluded that the path of the nervous influence was by the splanchnic branches of the sympathetic, and that the glycosuria is the result of an irritation, not of a paralysis, of the nerves, since the latter would not be removed by a second division of the path. M. Laffont has endeavoured to ascertain the truth of this opinion, by stimulating the first dorsal pair of nerves by faradization, and observing the effect of this stimulation on the vessels of the liver. In the first series of experiments he opened the spinal canal, and divided the cord at two spots, isolating a segment corresponding to the first and second dorsal pairs. He next exposed the liver, and observed changes in its vascularity by the naked eye. The observations were made upon dogs. On irritation of the isolated segment of the cord, the liver was observed to present disseminated congestion, accompanied by a corresponding injection of the intestine, and turgidity of the spleen. The view that the morbid influence is irritative rather than paralytic is thus confirmed.

Bernard also found that the stimulation of the central extremities of the vagus increased the amount of sugar produced; while Bezold ascertained that similar stimulation caused, in curarized animals, a fall in intra-arterial pressure, which, Ludwig and Thiry showed, was due to dilatation chiefly of the abdominal vessels. Vulpian attributed this effect to the simultaneous stimulation of the central extremity of the depressor branch of the vagus. M. Laffont has endeavoured to ascertain whether this latter view is correct, and he found that intermitting stimulation for an hour of the central extremities of the depressor nerves, by means of a weak faradaic current, produced actual glycosuria, the sugar amounting to from twenty-five to forty-nine grammes per litre of urine. This fact had, indeed, been already ascertained by Filehne, who stated further that the faradization of the central extremities of the pneumogastrics themselves in the rabbit does not cause glycosuria. The latter fact is not corroborated by Laffont. He was able by such stimulation to cause a glycosuria amounting to from eight to seventeen grammes of glucose per litre, and believes that it is due to the asphyxia produced by this stimulation.

In another series of experiments it was found that painful stimulation of any mixed nerve, frequently repeated, caused glycosuria at the end of a certain time, amounting, in different animals, to from four to nine grammes of sugar per litre. Next, the effect of division of the first two or three pairs of dorsal nerves on the glycosuria resulting from puncture of the floor of the fourth ventricle was investigated in rabbits. Threads were placed around the roots of the first two dorsal pairs, and, the effect of the diabetic puncture having been ascertained, the nerves were torn through by means of the thread. The effect was that the sugar fell from twenty and forty grammes per litre to seven or twelve grammes. The effect of this operation on the vascular phenomena caused by stimulating the central portions of the pneumogastric or depressor nerves was then examined. It was ascertained by means of a canula introduced into the carotid or crural artery. In the dog, the stimulation of the central extremities of the pneumogastrics with a strong current caused always an enormous increase of pressure, while feeble stimulation produced, on the other hand, a considerable diminution of pressure. The roots of the first three or four dorsal nerves were then torn through, and after this the feeble stimulation, which had before caused a fall in the blood-pressure, produced a considerable rise. The result was the same in the rabbit, with the exception that a strong stimulation of the depressor nerves never caused an increase in the blood-pressure. Thus the separation of the dorsal nerves prevents the effect upon the circulation otherwise caused by the stimulation of the pneumogastric or depressor nerves.

What is the effect on the abdominal circulation of stimulating the peripheral

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extremities of the upper dorsal nerve roots? Since all the roots could not be simultaneously excited, the first pair only was stimulated, the animal being under the influence of curara. A fall in the blood-pressure resulted, not considerable in degree, because under the influence of curara there is already dilatation of the abdominal vessels. The pressure was estimated in the splenic artery, or in one of the branches of the mesenteric artery. It was thus ascertained that the stimulation of these nerve roots by a weak faradaic current caused always a fall in the arterial pressure in the abdominal organs if the root is carefully isolated. The least extension of the current to the spinal cord itself caused an increase of pressure.

The conclusions drawn from these experiments confirm the view that the glycosuria which results from the stimulation of the central extremities of the pneumogastric nerve in the dog, the depressor nerves in the rabbit, and the sensory nerves generally, is the results of an impression conveyed to the bulbar vaso-dilator centre, the path from which is by the cervical cord, the first dorsal nerve roots, and the sympathetic and splanchnic nerves. It is conjectured to be by an action upon this centre that certain cardiac and general diseases may cause glycosuria. These effects, and those of the diabetic puncture, are prevented by the separation of the upper dorsal nerve roots, while the effect of stimulation of these divided roots shows that they contain dilator nerves for the vessels of the abdominal viscera.—*Lancet*, Oct. 23, 1880.

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Melæna Neonatorum.

Dr. J. Halliday Croom, Physician to the Royal Maternity Hospital, Edinburgh, records (*Med. Times and Gaz.*, Oct. 23, 1880) four cases of melæna neonatorum, which are of interest on account of the rarity of the disease and of the obscurity of its pathology. Dr. Croom remarks that it is at the outset necessary to draw attention to the fact that melæna neonatorum, as generally understood, is of two kinds, melæna vera and melæna spuria. With the latter (melæna spuria), where the blood does not come from the stomach or gut, but either (*a*) from other parts of the child, mouth, nose, lungs, or (*b*) from the nurse's breast,—the present communication has nothing to do. The cases that I now record are cases of melæna vera.

Case 1.—In May, 1870, I saw with a dispensary pupil a child, five hours after a normal, easy birth, suffering from "bloody diarrhœa." The child, which was to all appearance a perfectly healthy male at term, had passed when I saw him about a teacupful of dark, treacly-looking matter; and about an hour after the first, another equally copious motion passed, which on examination proved to be almost entirely blood. The action of the bowels was evidently unaccompanied by any pain. The infant became cold, vomited a small quantity of milk, and afterwards about a desertspoonful of pure blood. During the succeeding twelve hours the child had six motions. The first five were mixed with blood; the last was scanty, and contained only meconium. During and shortly after each motion the infant became cold, motionless, and seemingly exhausted by the hemorrhage, but between the attacks became more lively, sometimes cried and took the breast. The child made a perfect recovery. Decadence of the cord took place on the sixth day without hemorrhage. While discussing the case with my pupil, he incidentally told me that the father of the child had come to the dispensary the previous week to have a tooth extracted, and that during the night the man had sent for him to have the bleeding stopped, because it had continued to faintness. The man, aged thirty-four, was fair and slender, but in vigorous health. As a boy he said that he had frequently suffered from epistaxis, and that even in adult life he had been more than usually subject to bleeding from the nose. He had

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had three (including the present) teeth extracted, and after each there had been an unusual loss of blood. He had never any wound or bruise so far as he remembered, and no swelling or affection of the joints. The mother had given birth to three children, all of whom had died in early childhood of diseases having no bearing on the present subject. She could give no history of any unusual tendency to hemorrhage in herself or any relative.

Case 2.—On the morning of January 10, 1875, an apparently healthy male child, extracted by forceps owing to rigidity of the soft parts, was, six hours after birth, seized with a copious discharge of dark blood per rectum. When summoned, the woman in attendance stated to me that the first two motions from the child were natural, that when the blood passed the child evinced no sign of pain, and she did not know anything unusual had happened until she examined the napkin. I saw the napkin; it contained coagula and stains sufficient to correspond to, say, a claret-glassful of blood. The child seemed well, cried vigorously, and moved its limbs freely. Four hours after the first there was a second and more profuse discharge of blood, and within half an hour a third, less severe, however, than either of the former. I saw the infant shortly after the last hemorrhage; the extremities were cold, the face blanched, pulse hardly perceptible, and the child lying motionless and collapsed. Small quantities of brandy were ordered, and warmth to the extremities. The child remained much the same till midnight, when it cried feebly, and passed a scanty but otherwise normal stool. In the early morning there was a slight return of the hemorrhage. During the following day the child gradually improved, took the breast, and from that time onwards made a complete recovery. Decadence of the cord was unaccompanied by hemorrhage. In this case forceps was applied to hasten a delivery protracted by rigidity of the soft parts. Very little compressing or extracting power was required. Shortly after birth the child presented blotches on either side of the head, involving the cellular tissue behind the ear, the posterior part of the external ear, and the scalp over the parietal bone. The blotching was more marked on the left than on the right side. The ecchymoses, as they seemed to be, disappeared on the fifth day, and were evidently the result of the pressure, slight though it was, exerted by the forceps. The infant died three months afterwards from diarrhœa, but no post-mortem could be obtained. Both father and mother were of phthisical descent. I could trace no tendency to bleed in the parents or in their families.

Case 3.—After a labour extending over seventeen hours, Mrs. S. A., multipara, was delivered of a small but healthy male fœtus, at term, without artificial aid. Ten hours after birth I was asked to see the child, whom I found pale, blanched, pulseless—in fact, moribund. The woman in attendance told me that during the day it had passed quantities of blood by the bowel. I was shown the napkins, and found them soaked with blood. Except the first napkin all the rest were stained more or less with blood, some of them saturated. The child died shortly after I saw it.

Sectio Cadaveris.—Rigor mortis well marked. Lungs and heart were healthy, but the substance of the heart was very pale. The whole intestinal tract was carefully examined bit by bit, but no trace of any ulcer, abscess, or erosion, either in the stomach, duodenum, or any other part of the gut, could be discovered. There was in the lower parts of the bowel some slight congestion along with several clots of blood. There was no enlargement of spleen. All the organs were extremely pale and exsanguine, but healthy.

Helmbrecht relates a case somewhat similar to this, where a child a few days after birth died from bloody diarrhœa and vomiting of blood. Congestion of the rectum was the only morbid condition found on post-mortem examination.

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Case 4.—An infant, three weeks old, hand-fed, was suddenly, during the night, seized with profuse dark diarrhœa, accompanied by occasional vomiting of blood. I was summoned in the morning, but the child had died an hour previous to my visit. On inquiring of the nurse, I was told that on the previous evening the child was apparently quite well. During early morning the child was seized with what appeared to be diarrhœa. The nurse was, however, struck with the dark colour of the stools, and on examination found them to consist almost entirely of blood. During the night there was considerable vomiting of blood. I requested a post-mortem examination. This was granted, and the section was performed by Dr. Illingsworth, one of the demonstrators of anatomy in the University, who made the following report: Pericardium contained about a teaspoonful of serous fluid. Heart normal; valves competent. In the aorta was found a post-mortem clot partially decolourized. Septum ventriculosum normal. Fossa ovalis ventriculi empty. Right auricle filled with a firm clot; left auricle contained firm clots. Lungs slightly congested at their base, more especially the right lung. No embolism found in any of the branches of the pulmonary artery. Bronchi filled with glairy mucus. Stomach normal. Duodenum—capillary injection of mucous membrane, especially of upper two-thirds, but no sign of ulceration. Rest of intestine and other organs normal, but pale.

It is not my intention now to enter into any description of the symptoms or treatment of this disease. The symptoms are plain—a discharge of blood from the bowel, either with or without hæmatemesis. The treatment in such early infant life amounts to *nil*. I wish rather to draw attention to its pathology.

The rarity of this affection has not had any effect in limiting the suggestions which have been advanced to account for it; on the contrary, they have been both numerous and varied.

Billard[1] ascribes the condition to a follicular inflammation of the stomach and bowel. Bouchut[2] divides bleeding from the intestine during early infant life into three groups—first, from purpura; second, from passive congestion, the result of compression at birth; third, as a result of acute or chronic inflammation of the stomach.

Rilliet and Barthez,[3] after discussing the probability of the hemorrhage being the result of compression at birth *ab* plethora of the veins of the abdomen, discard these as causes, and suggest that heredity plays an important part in the disease.

West[4] says that in the greater number of cases the occurrence has taken place within a few days, sometimes within a few hours after birth, and in some instances has followed a tedious labour, in which the head of the child has been much compressed or otherwise injured during attempts at extraction, while in other cases the difficulty in the establishment of the respiration has seemed to be the predisposing cause of the hemorrhage. Very often, he adds, no reason can be assigned for it.

Braun[5] suggests a variety of causes which may account for melæna—congestion of the mesenteric vessels, pressure during birth, heredity, intra-uterine interference with nutrition.

Gerhardt[6] draws attention to the extreme rarity of the affection, but throws little or no light on the pathology.

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[1] Traité des Maladies des Enfants nouveau-nés et à la Mamelle. Paris, 1828.

[2] Traité Pratique des Maladies des Nouveaux-nés et de Enfants à la Mamelle, deuxiéme édition, pages 592, etc. Paris, 1852.

[3] Traité Clinique et Pratique des Maladies des Enfants, vol. ii. Paris, 1853.

[4] Diseases of Infancy and Childhood, p. 595.

[5] Compendium des Kinderheilkunde. Vienna, 1871.

[6] Lehrbuch der Kinderkrankheiten. Tübingen, 1871.

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Steiner[1] says that the round, perforating ulcer is a very rare thing in infancy, but has been met with by Billard and others in the new-born. He thinks it due to fatty degeneration of the arteries, and its special symptom is described as melæna neonatorum.

In an elaborate monograph on the subject, Landau[2] reviews the pathology of melæna. He passes in review the many extravagant hypotheses that have been suggested as explaining this rare and little understood affection. He then comes to the more recent views of Hecker, Buhl, and Spiegelberg.

Hecker and Buhl base their statements on two post-mortem examinations which revealed the existence of abscesses respectively of stomach and duodenum. Hecker, however, does not suggest any cause for the abscess.

Spiegelberg made two post-mortems on children who died from this cause, and in both he found abscesses in the duodenum. He is of opinion that their origin is intra-uterine. Landau reports two cases of mælena, both of which were fatal, and in both of which careful post-mortem examinations were made. In both, abscesses of the duodenum were found.

Landau comes to the conclusion that nearly all uncomplicated cases of melæna which occur in otherwise healthy new-born children depend on material changes in the stomach and gut—*ulcis ventriculi sive duodenum rotundum*, upon rupture of an artery or a vein. Unlike the authors to whom I have already alluded, he thinks these ulcers do not depend on fœtal inflammation of the stomach, nor are they of intra-uterine origin. He believes that they arise in connection with occurrences at birth causing derangements of the circulation, very often by a small embolism, either secondary or primary, arising from pressure and restraint of the first inspirations.

In the few cases recorded by Landau, in which careful post-mortem examinations were made, there can be no doubt that the perforating ulcers he so minutely describes were the cause of the hemorrhage and death. His suggestion as to the embolic origin of the ulcer is a valuable and ingenious contribution to the pathology of the disease.

This explanation does not, however, hold true of the majority of the cases of melæna. The greater proportion recover. Barthez and Rilliet[3] alone make mention of twenty-two cases, of which twelve recovered. This would hardly be the result in cases of ulceration sufficient to give rise to hemorrhage to the extent mentioned; and again, in many of those cases—notably those of West—in which post-mortem examinations were made, no morbid change could be found in any of the abdominal viscera. In these latter, therefore, ulceration, whether the result of embolism or not, could not have been the cause of the hemorrhage.

I am inclined to think that in the cases I have recorded we have indications at least of the direction in which we are to look for some, perhaps of most, cases of melæna.

In the first case it has been shown beyond doubt that the hemorrhagic tendency was well marked in the father, not certainly to the length of being a marked case of hæmophilia, but sufficiently to show the tendency to bleed. In the second case, although no tendency to bleed could be traced in the parents, still the fact that the ecchymoses, so extensive, occurred on either side of the child's head as the result of but very slight pressure by the blades of the forceps, seems to show that the child had a marked tendency to hemorrhage from very slight causes. Even in extreme cases of contraction at the brim, where great compressing and

[1] Steiner's Diseases of Children, translated by Lawson Tait, p. 237.
[2] Ueber Melæna der Neugeborenen, von Dr. Leopold Landau. Breslau, 1874.
[3] Op. cit.

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extracting power has to be used, frequently no mark further than an indentation from the blades of the forceps is to be seen. Apart, then, from the melæna, this child had a tendency to bleed.

In Cases 3 and 4, although no reliable family history of bleeding could be obtained, and although the child showed no indication of a tendency to hemorrhage other than the melæna, yet the fact that the post-mortem examination gave no trace of any morbid condition save patches of slight congestion here and there in the intestinal canal, leaves the suggestion as to a diathetic tendency to bleed a feasible one.

In these four cases at least a hereditary or congenital tendency to bleed, either spontaneously or on very slight provocation, would seem to be the pathological explanation of the condition. It is true that in only two of the four cases had I an opportunity of making post-mortem examinations, the result being that no morbid condition could be found. This, however, I consider to be rather confirmatory of my view than otherwise, because it is an ascertained fact that in those who are the subjects of hæmophilia, and in whom death has occurred from extensive hemorrhage, no morbid change can be found, nor any single point discovered to account for the bleeding. Again, if the pathology of hæmophilia consists, as has been shown by Dr. Wickham Legge,[1] in an imperfect development of the whole vascular system, so that the fœtal state—not, of course, of the circulation, but of the vascular walls—remains in extra-uterine life, it seems to me probable that the pressure exerted on the child during birth, the establishment of circulation and respiration, combined with the active movements of the child's body, may give rise to hemorrhage from the thin-walled capillaries along the intestinal tract.

But, apart from physiological exciting causes such as those I have just mentioned, any cause interfering with the respiration will occasion increased pressure on the venous system and render the tendency to hemorrhage more marked. Now, other causes are exceedingly common at birth, such as tedious labour, aspiration of mucus, as well as the pressure of instruments. In two of my cases such causes were, no doubt, factors in the production of the hemorrhage.

Beyond being occasioned by ulceration of the gut, or as a general oozing from the capillaries, which I believe to have been the fact in the cases I have just recorded, or from venous congestion the result of obstructed respiration, melæna vera may be caused by[2] rupture of a vein, polypus of the gut, or perforation from round worms.

In looking at the sex of the children affected, Barthez and Rilliet[3] find girls more subject to it than boys. Landau[4] also points out that the affection is more common in girls than in boys. Barrier[5] groups twenty-one cases, of which twelve were girls and nine boys. Of my own four cases three were boys and one a girl. There can be no doubt, however, that of the recorded cases the majority were females. Now, this will be pointed out as an argument against my suggestion, that the cases we are now dealing with are cases of early development of hæmophilia, because it is admitted that boys are more subject to hæmophilia than girls. In fact, in the earlier accounts of hæmophilia, girls were supposed to be entirely exempt. A glance at Lange's paper,[6] in which are collected all the then (1849) published cases of hæmophilia, shows that there were 227 or 229 boys to 31 girls. Grandidier[7] showed 452 boys and 31 girls.

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[1] A Treatise on Hæmophilia, by Dr. Wickham Legge, page 100.
[2] Landau, op. cit. [3] Op. cit. [4] Op. cit.
[5] Traité Pratique de Maladies de l'Enfance. Paris, 1848.
[6] Lange: Oppenheim's Zeitschrift, Bd. xliv. p. 157.
[7] Grandidier, Die Hämophilie, page 87. Leipzic, 1858.

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Now, it is worthy of remark, that of the recorded cases of deaths from round perforating ulcers, all, without exception, were girls—*e. g.*, cases recorded by Spiegelberg and Landau. This is only in accordance with what is found in adult life, where ulcer of the stomach is more common in women than in men. If we therefore withdraw from our calculation the fatal cases, many of which in all probability depend on ulcers either of the stomach or duodenum, we shall have the balance of the sexes more nearly equal, and therefore render the suggestion of hæmophilia feasible enough; and in my own cases the question of sex does not enter at all, as, of the four cases, three were boys and only one a girl.

The period of early infant life at which melæna usually occurs varies considerably, but it is generally within one or two days after birth. In the majority the symptoms develop between the first and sixth days. Of fifty cases, collected from various sources, I find that the hemorrhage took place—in thirty, between the first and sixth day; in eight, between the sixth and eighth day; in four, between the eighth and twelfth day; in eight, between the twelfth and eighteenth day. Of the first thirty cases, six developed within the first twenty-four hours.

In regard to prognosis, Landau points out that there is no record of a cured case of gastric or duodenal ulcer in a new-born child. The cases which recover are those which owe their origin to some of the other causes of which I have referred. Taking the cases altogether the mortality is about 60 per cent.

The diagnosis of melæna is simple—the discharge of blood per orem or per anum, or both—but the exact diagnosis of the cause is altogether another matter. If the melæna occur after a difficult labour, or when there has been difficulty in establishing the respiration, then venous congestion or rupture of a vein may probably be credited with the cause, or it may be an early symptom of hæmophilia. If the melæna take place shortly after a normal labour in an otherwise healthy child, especially if any hereditary tendency to bleed can be traced, the cause will probably be found in a condition of the vessels similar to that found in hæmophilia. If the melæna occur profusely several days after labour, if there has been any interference with respiration, and if the case be fatal, the cause may be looked for in a gastric or duodenal ulcer, originating, as Landau shows, in an embolism.

Surgery.

Notes on Chian Turpentine, and its Use in Cancer.

Dr. JOHN CLAY, Obstetric Surgeon to the Queen's Hospital, Birmingham, publishes in the *Lancet* (Oct. 2, 1880) the following additional article on this subject which has of late attracted so much attention.

In the correspondence which has been recently published in the medical journals the efficiency of Chian turpentine in the treatment of cancer has been altogether denied by certain writers. Some have suggested that unsuccessful results may be attributed to the impurity of the drug employed; others have ungenerously questioned the validity of the statements made in my paper, which appeared in the *Lancet* for March 27, 1880. It consequently seems advisable to offer some further general observations, by way of explanation and elucidation, on the subject.

It is a matter for regret that the supply of the genuine Chian turpentine has been so limited, as this has led to the substitution of factitious drugs, the use of which, as I have previously explained, unfavourably influences the results, besides entailing the further disadvantage of preventing a thorough testing of this method of treating cancer. I believe it is a fact that Chian turpentine, in mass, can

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scarcely be procured in this country at the present time, and therefore it is obvious that the treatment of the disease must be somewhat in abeyance until a supply of the pure drug arrives from abroad. I hope that the difficulty will soon be overcome, as I have been making special efforts to obtain the pure turpentine direct from Scio, and have had three excellent samples of the genuine drug sent to me through the post from that island; a supply may therefore be expected shortly, when the purity of the drug at least will be definitely determined. The specimens referred to differ in some particulars from the Chian turpentine which I have previously described, and which had been in stock some years. There are also samples of larch turpentine in the market, which slightly resemble the recently gathered genuine drug. It may be of advantage therefore to the profession to describe each, and to note their differences.

Specimen No. 1 is of a pale, amber colour, and almost entirely free from impurities. It has the fragrant odour peculiar to Chian turpentine well marked, which is readily perceptible after rubbing a small portion between the thumb and finger. It has a mild terebinthinate taste, which rapidly disappears. On placing a small portion of the drug on a piece of glass, and exposing it to the atmosphere, it considerably thickens after a few days' exposure.

Specimen No. 2. This, obtained last year, is the drug as collected. It contains a large quantity of foreign matter, such as pieces of bark, sand, etc., all of which give it a darker colour than the last-mentioned specimen. Two ounces of this crude product yielded, after straining, upwards of half an ounce of impurities. The strained portion contained still a quantity of minute particles of foreign substances. The taste and odour are the same as in the Specimen No. 1.

Specimen No. 3 resembles soft glazier's putty, but is somewhat whiter, and is of the same consistence. It is Chian turpentine that has been well washed in water, to free it from impurities. It has a mild taste of turpentine, and the peculiar odour is well-marked. If a portion is subjected to pressure between two pieces of glass, water can be readily forced out of the mass.

Three specimens have been submitted to me as genuine Chian which were purely larch turpentine. They may, as alleged, have been gathered in Cyprus. They have a strong odour of pine wood, and are of a browner appearance than the recent specimens just described. On tasting a portion, it appears tasteless for the first minute, after which a strong, bitter, nauseous flavour became manifest, eventually leaving a strong, sickening sensation at the back of the throat, which is slow to disappear. A portion placed on glass, and exposed to the atmosphere for four weeks, showed no signs of thickening, and readily adhered to the fingers.

The degree of solubility of the two kinds of turpentine, in ether and alcohol, is not materially different from that described in a former paper. The mild terebinthinate taste of the pure drug, its peculiar odour, with its power to solidify on exposure to the atmosphere, are characters sufficient to distinguish it from any other turpentine resin.

The results of the treatment of various forms of cancer, in the hands of certain medical practitioners, are alleged to be so different from those obtained by myself, that these gentlemen have thought fit to question the validity of my experiments. Certain results obtained by the use of a remedy, almost forgotten by the therapeutist, were placed by me unreservedly before the profession; and for the benefit of suffering humanity at least a fair trial of the remedy ought to be given before condemning it. In testing the efficiency of the drug, it is doubtless all-important that the true one should be used. It would appear to be not an easy matter to decide the question of purity, for upwards of three hundred specimens have been sent to me for examination by English and foreign medical men, most of them being guaranteed by the druggists supplying them, and it was a surprise to me to

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find so few examples of the genuine article amongst them. It will be as necessary now as before to use extreme vigilance in this respect in expectation of the new supply. In a large percentage of cases the factitious turpentine only has been used in the treatment of cancer. In one institution this was particularly so; and after the genuine drug had been tried for about three weeks the results of the two were combined, and a letter forthwith appeared in *The Times*, alleging that the remedy was useless. A similar instance occurred in an institution in this town, where the impure drug was first used, and then after a trial with the pure drug for about three weeks, letters appeared in a medical journal declaring that the remedy was of no benefit in the treatment of cancer. It is plain that sufficient time has not been allowed to elapse for the full effects of the remedy to be manifested, as in these instances of condemnation it has almost invariably been declared inoperative after a few weeks' trial only. Besides the unsatisfactory results which have accrued from the use of the impure drug, the full effects of the pure turpentine have not been gained in some instances from the drug not having been entirely digested. This has arisen occasionally from its incomplete preparation for administration. In compounding the mixture, freshly prepared mucilage of tragacanth, B. P., has not been used, and then it rapidly decomposes; or sufficient of the mucilage has not been employed, which causes the resin to separate, and the doses of the medicine, therefore, have been irregular and insufficient. It has been shown in the *Pharmaceutical Journal* that acacia powder might be advantageously substituted for the tragacanth. It is necessary, therefore, to provide that a sufficient quantity of either gum shall be used in the preparation of the Chio turpentine mixture. Where the digestive powers are impaired, an addition of twenty minims of the compound tincture of cinchona to each dose has occasionally proved beneficial. The discontinuance of the sulphur has been advised, in order to make the mixture more elegant and miscible. I believe, however, that the mixture is more efficient, when it is well tolerated, if prepared with the sulphur.

In reference to the pills, if they are not properly prepared they are not always digested. If this is discovered on examining the evacuations, the use of the mixture in conjunction with the pills is indicated; that is, a dose of the mixture should be taken by the patient night and morning, and two pills in the middle of the day, in each case after food. It is advisable, when commencing the treatment, to give only half doses of the turpentine for the first week. Magnesia should not be used as an excipient in the preparation of the pills, but whether this exception ought to apply to the recently collected drug future experiment will have to decide. Pills prepared with magnesia are almost insoluble, and the same remark applies to some coated ones. The pills may be prepared sometimes with ether, to soften the turpentine, or it may be made soft by immersing the mortar in a hot-water bath, the sulphur being added to the mass in its softened state. The latter mode appears preferable, if only to facilitate the digestion of the pills, as if any difficulty is met with in this way they may be roughly powdered and taken in milk or some bland liquid, and then they are generally digested.

The statements made in my original paper as to the efficacy of Chian turpentine in cancer appear to me to be fully confirmed by the additional experience gained in the use of the remedy. In the cases previously reported the cancer has disappeared, and there are no signs of its return. This fact must be considered at least as a complete refutation of the statements, recently and boldly made, that Chian turpentine in the treatment of cancer is useless. The cases just referred to are unique of their kind, for, so far as I know, they are the only instances on record of cancer being cured solely by the administration of an internal remedy

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I feel justified, therefore, in stating that uterine cancer at least may be removed by the use of Chian turpentine.

It is a fact which might be expected that most of the cases of cancer which have presented themselves are in an advanced stage of the disease; and more especially is this the case in cancers of the uterus. Yet the treatment continues to be very efficient. My experience does not stand alone in this respect, for several gentlemen have given independent testimony of the good effects produced by the turpentine treatment in cancer of various organs. In my original experiments the turpentine alone was used in order to thoroughly test its efficacy, but it now appears that the use of certain local and general measures undoubtedly promotes the convalescence of the patient. It is possible, therefore, to formulate a line of treatment which shall be successful in cancers of the uterus. Hence, given a case of cancer limited to that organ, and a steady use of the remedy for six or eight months, continued with certain general and local remedies if necessary, and a disappearance of the cancer may be reasonably expected. Eleven cases of uterine cancer under this treatment at the Queen's Hospital, besides a number of others in private practice, so far justify the preceding statements. Some very interesting facts have been observed during their treatment, which I hope to detail on a future occasion.

It is advisable not to be too precipitate in rejecting a case of uterine cancer on the ground of its being too far advanced for treatment. The following case, amongst others, is to the point. Mary B. took her discharge from the Middlesex Hospital, London, about four months ago, and, according to report, was informed that her case was incurable, and that she had not long to live. She had heard of the turpentine treatment, and was very anxious to be under my care at the Queen's Hospital, but I advised her not to undertake the journey, as I believed the case, from what I heard of it, was too far advanced for treatment. This advice, however, she disregarded, and became an in-patient at the Queen's Hospital. Here she was placed under the Chian turpentine treatment, and improved so much in nine weeks that she is about to return to London with every prospect of soon being cured.

In cancer of the uterus the conclusion expressed in a former paper, that the remedy destroys the cancer cells and causes the death of the growth, is strengthened by experience, and, as a consequence, there is cessation of pain and hemorrhage in the first instance. But the turpentine at first does not destroy the bloodvessels of the part. As the dead tissue escapes, these become denuded, and give rise to hemorrhage, especially at the menstrual period. In patients who have past the climacteric period this has not been observed. Ergot has been found of no benefit in arresting the hemorrhage. Insufflation with three grains each of sulphate of zinc and powdered charcoal, once or twice a day, after syringing the vagina, has proved effectual, and appears to promote the obliteration and atrophy of the vessels. The same end may be attained by using a weak solution of perchloride of iron and glycerine. I have ordered some patients to syringe the vagina daily with equal parts of common vinegar and water, with good effect. When the anterior walls of the vagina are involved, either primarily or from extension, the case is not so suitable for treatment with the turpentine. A vesico-vaginal fistula is soon generally formed, but if this do not happen, cystitis supervenes, and the patient succumbs to the uræmic symptoms which are rapidly developed. Moreover, the turpentine is not well tolerated, but when a fistula forms, it is better borne, and uræmia does not arise.

Excision of the cervix uteri is not advisable, as the disease readily extends to the anterior wall of the vagina subsequently; and then the bladder complications, above described, arise with increased force. The use of the curette is not so

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objectionable if it is employed to remove only the sloughing mass after some weeks' use of the Chian turpentine, but it has not been deemed necessary to use the instrument, it being all important to preserve as much normal tissue as possible.

The mode in which Chian turpentine effects the removal of cancer was well illustrated in a case of epithelioma of the vulva. The patient, aged sixty, had been operated upon for cancer of the clitoris or vulva. The case was reported in the *Lancet* at the time. The patient thoroughly recovered from the operation. About a year afterwards cancer reappeared in the lower part of the vulva and vagina. The growth was again excised, and she made a good recovery this time. About eight months afterwards a cancer appeared on the right labium, and when it was there seen for the first time it was the size of half-a-crown. It was determined to give the Chian turpentine, and the drug was given in full doses three times daily. At the end of the first week there was no alteration, excepting that the cancer was thought to be somewhat paler on its surface, and the surrounding swelling less. Second week: The growth was coated with a secretion of a grayish colour, which appeared to be firmly adherent. Fourth week: The growth was only half its former size. Its surface was somewhat convex; and was considerably thicker than previously, and was surrounded by a ring of a bright crimson colour. One of the resident surgeons of the hospital who saw it remarked that it looked like a small mushroom springing from the vulva. Sixth week: The growth was now diminished to the size of a fourpenny piece, and was still surrounded by the bright coloured ring, but was free from the secretion. The surface did not bleed on being touched. Eighth week: The coloured ring had disappeared. The growth was much smaller, and it had the appearance of a large "seedy" wart, such as is sometimes seen on the hands. Tenth week: The growth remained about the same. Twelfth week: The growth had all but disappeared, and the patient went into the country for a short time, but promised to report herself when she returned.

In private practice three cases of cancer of the rectum are under treatment, two of which are much improved; and one has not been seen again, but a favourable report is given after seven weeks' trial. Three cases of cancer of the stomach are under treatment; one has discharged herself, but the other two have remarkably improved, as regards freedom from pain and capacity of retaining nourishment, though continual sickness existed previously. So far as the treatment has extended, these cases seem to prove that the turpentine is equally, if not more, efficient in cancer of the stomach than of any other organ. In one case the glands of the neck were much enlarged; but these swellings entirely disappeared after the use of the remedy. Four cases of cancer of the tongue have been under observation. In one case the growth was as large as a cherry, and in four weeks it was reduced to a level with the mucous membrane, and it appears now to be cicatrizing.

Several cases of cancer of the face have been very much benefited. In two cases of endothelial cancer of the abdomen and one of cancer of the liver, no benefit seemed to be derived, excepting that in one case there was some alleviation of pain, and an improvement of general health for a time.

In all forms of cancer, where the turpentine has been taken for six or eight weeks, I have found the administration of a tonic to be of advantage, as it promotes the convalescence of the patient, and if the disease affects the uterus or rectum it seems to facilitate the escape of the débris from the destroyed mass, and to promote cicatrization. Four minims of the tincture of perchloride of iron, and three minims of liquor strychniæ, taken three times daily, are recommended; and if there be any pain, which often happens after six months' use of the remedy, six drops of tincture of belladonna are added. A generous diet is allowed.

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Morphia is not advised. The bowels should be kept daily moved, when necessary, by a mild aperient. After the turpentine has been regularly taken for three or four months, I now recommend it to be discontinued for three or four days in the fortnight. It is probable that future experience will show that, after it has been taken for the above-named period, it will be no longer necessary in the majority of cases, but as a precautionary measure it has been generally continued in the manner just described.

There are sixteen cases of cancer of the breast under treatment in the hospital, and a large number are under observation privately. The effects of the remedy in the first few weeks are, the relief of pain, and a diminution in the size of the breast, which is generally more movable, even when apparently fixed to the walls of the chest; this probably arises from a diminution of the surrounding cancerous infiltration. Time has not been sufficient, however, to speak with definiteness as to the ultimate results. The clinical facts brought out in this class of cases are very interesting and instructive. There is a great probability that the disease is arrested, as after four months' trial of the remedy the morbid growth has not increased in size. As far as can be stated at present, for therapeutical purposes the cases appear to be divisible into three classes: 1. The ordinary scirrhus of the breast, with or without surrounding infiltration. 2. Epithelial cancer. 3. Cases of ulceration after previous operation.

In the *first* class of cases great interest attaches to the experiment, as indicating how the solid mass is removed. It appears at present to deport itself as if it were a foreign body, and seems disposed to make its way rapidly to the surface; but in the cases where this has occurred the growth is not of an active character, for as the mass comes to the surface a crust forms upon it. This disappears in time, and another forms, while the whole bulk of the mass gradually diminishes in size. It may prove eventually that this is one mode of the removal of the disease. In these cases the growth does not increase in size, but, on the contrary, gradually diminishes.

In the *second* class—*i. e.*, epithelial cancers—the surface of the growth becomes paler at first, then smoother, as if it had been levelled by friction; sometimes some of the nodules slough away. Then a process of cicatrization takes place. There are two cases in which the new tissue around the growth is quite half an inch in breadth. Two others, about one and a half and two inches respectively in diameter, have entirely healed over.

In the *third* class of cases the results are so far favourable that the ulceration has not increased in size, but they have not progressed so favourably as the other cases. In several instances the glands of the axilla have been enlarged, but the enlargement has generally disappeared under a steady use of the turpentine.

The importance of these imperfect notes to the profession, and the influence they may have in aiding the treatment of cancer will, I hope, be a sufficient apology for reverting to the subject. At least I trust I have shown that the remedy is not useless. I may, in conclusion, state that in the treatment of these diseases patience and perseverance for a few months are absolutely necessary. In some diseases which affect the human race, a continued treatment for twelve or eighteen months is often thought requisite. It has, I believe, been here shown that the remedy does produce some influence on the progress of cancer; and it is but reasonable to require that a similar indulgence be extended to the treatment of cancer by this method, as in the chronic diseases just referred to. As the remedy can be taken with impunity for a long period, and if time be granted for the trial of it, I feel that I am justified in stating that its steady use promises excellent future results.

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Partial Tenotomy of the Muscles of the Eye.

Dr. ABADIE, in the *Annales d'Oculistique* (May, June, 1880), urges, in certain cases of insufficiency of the internal recti, a partial tenotomy of their antagonists. He bases this teaching on von Graefe's doctrine, and recommends the revival of the method of partial division of the tendon, which that great master actually performed in one year as many as 120 times. Dr. Abadie has himself, of late frequently performed the operation with very satisfactory results. His procedure is as follows. The first stage of the operation is the same as that for ordinary strabismus: the hook is passed under the tendon of the muscle, and any slight hemorrhage at once restrained, for the operator must have a clear view of the tendon. The tendon is then snipped across about half-way, with sharp pointed scissors, commencing at the free border of the hook. A similar incision into the tendon is made in a direction towards the handle of the hook, a few tendinous fibres being left adherent to the sclerotic. In the last eight months, Dr. Abadie has performed this operation ten times, with the result of relieving asthenopia, due to insufficiency of the internal recti, in cases where prisms had completely failed. The great advantage of the treatment, according to the author, is that it is prophylactic, and can be applied at a very early stage, so soon, in fact, as any insufficiency of the internal recti becomes evident; that is the proper treatment to check the onset of those pathological changes which characterize progressive myopia. Once such changes as thinning of the membranes of the eye, atrophy of the choroid, lesion of the macula, and finally, detachment of the retina have supervened, treatment is powerless. [In an able note appended to this paper, M. Giraud-Teulon combats the author's conclusions, and points out that he has adopted von Graefe's earlier views, forgetting altogether that von Graefe himself abandoned partial tenotomy after an experience of ten years; and in his latest writings insisted on the necessity of a complete division and detachment of the muscle from its sclerotic attachments.—*Rep.*]—*Lond. Med. Record*, Oct. 15, 1880.

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Choroiditis as a Sequel of Relapsing Fever.

In the *Klinische Monatsblätter für Augenheilk.* (Jan. 1880) Dr. JULIUS TROMPETTER reports that, in three hundred and twenty-five cases of relapsing fever in Breslau, twenty-one cases of choroiditis were observed; they were mostly of the acute form. On admission to hospital, the patients mostly presented the characters of well-marked choroiditis in the form of cyclitis. Very frequently hypopyon appeared, in the absence of inflammatory phenomena on the part of the iris. Turbidity of the vitreous humour was ascertained in all the cases; and the visual acuity was always considerably impaired at the commencement of the illness. The field of vision showed a limitation of the periphery in all directions. The course of the choroiditis was in general favourable; its average duration was from a month to six weeks. In two cases, both eyes were affected. Dr. Trompetter believes that the affections of the eye in relapsing fever are due to embolism arising from partial necrosis and abscess of the spleen.—*British Med. Journal*, Oct. 30, 1880.

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Emphysema from Inflation of the Tympanum.

Professor VOLTOLINI relates the following case of the above accident which he has recently met with (*Monatsschrift für Ohrenheilkunde*, May, 1880). Mr. H., aged 28, suffered for several years from progressive deafness without definite cause. The watch was not heard with the left ear, and on contact only with the right. The auditory canals and membranes presented nothing abnormal. On

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catheterizing, air passed into the tympanic cavities with a very weak stream. The finest bougies (India-rubber with olive-shaped ends) could only be introduced with difficulty, on account of either some narrowing or bending of the tube. Larger bougies were gradually introduced, with decided benefit to the hearing. One day, on inflating the right ear with the bag, after one of the thicker bougies had been passed, sudden pain in the throat was experienced, and emphysema could be felt extending to the lower part of the larynx on the right side and also above the larynx on the left side. No bad effects resulted from this On the left side only the thinnest bougie was employed, but, in spite of this, one day, whilst air was being blown in with the bag, the patient jumped up suddenly and tried to spit something up out of his throat. On inspection, the uvula was found blown out with air into a white bladder. This was immediately relieved by a few snips with the scissors. The author thinks that this case speaks strongly against the use of the condensing-pump for inflation, which, if employed in this case, he supposes might have produced sudden death by emphysema in the larynx. —*Lond. Med. Record*, Oct. 15, 1880.

Gastrotomy for Establishing a Gastric Fistula.

Dr. CARL ELIAS, of Breslau, in a contribution to the *Deutsche Medicinische Wochenschrift*, No. 25, 1880, points out that gastrotomy, performed for the relief of carcinoma of the œsophagus, has hitherto been almost invariably attended with bad results. Whilst in some few instances in which a gastric fistula had been established for the relief of symptoms caused by impermeable cicatricial stricture, the patients survived in good health for many months after the operation, similar treatment in instances of carcinoma of the œsophagus has always been followed by death within a period of three months. In most of the forty instances of gastrotomy performed for œsophagus carcinoma during the past two years, the patient died in the course of a few days after the operation. The author then proceeds to discuss the question whether, in the face of such results, it will be prudent for surgeons in future to attempt to establish a gastric fistula in cases of cancer of the œsophagus. An analysis of the cases in which gastrotomy has been performed shows, the author states, that very few of the patients died from acute peritonitis consequent on the operation. Since the introduction of the antiseptic method, and also in consequence of recent improvements in the method of fixing the stomach to the edges of the wound in the abdominal wall, the risks of acute peritonitis as a result of gastrotomy have much diminished. The statistics of recent ovariotomy prove that operations on the abdominal cavity have been attended with much less danger since the introduction of Listerism. The author, in order to show that very severe operations may be performed on the stomach under antiseptic conditions without exciting peritonitis, refers to a case in which he attempted to excise a cancerous growth at the pylorus. In this case, although the whole of the stomach had been drawn out through an incision in the abdominal wall, the patient subsequently remained quite free from fever and lived until the twentieth day after the operation, when death occurred simply as a result of the disease. In most of the cases of carcinoma of the œsophagus in which a gastric fistula was established, the author believes the operation had been too long postponed, and the patients died in consequence of exhaustion and slow starvation. If it be recognized that gastrotomy for establishing a gastric fistula is a safe operation when performed with antiseptic precautions, and that good and plentiful nourishment is one of the main therapeutical objects in cases of carcinoma of the œsophagus, then it must be allowed, it is argued, that the surgeon is not only justified in performing the operation in cases of such disease, but is bound to have recourse to such proceed-

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ing at as early a stage as possible, and to establish a gastric fistula before the patient's strength has been reduced to a minimum and the cancerous disease has far advanced. The irritation of the diseased parts by the passage of food is thus removed, and the patient's mind is thus relieved from the fearful prospect of death from starvation. Lumbar colotomy, performed for the relief of the symptoms of rectal cancer, is now a recognized operation, and in cases of acute laryngeal stenosis tracheotomy is often performed for the sake of euthanasia, and notwithstanding the probability of speedy death from diphtheria or croupous pneumonia.

One of the most important points in the operation for establishing a gastric fistula, is the secure attachment of the anterior wall of the stomach to the edges of the incision in the anterior abdominal wall. Unless care be taken in applying the sutures, there is a risk, during vomiting or coughing, of the stomach being separated and slipping far back into the abdominal cavity. The author prefers for this part of the operation an interrupted suture of tough and firm material, involving, on the one hand, a broad piece both of the serous and the mucous coats of the gastric wall, and, on the other hand, the whole thickness of the abdominal wall, including the peritoneum. This is sufficient to retain the empty stomach in position until it has contracted firm adhesion to the parietes. It is unimportant whether the material of the suture be silver wire, catgut, or silk, and equally so whether the wall of the stomach be incised immediately, after the application of the suture or subsequently, after an interval of some days, when the parts have contracted firm adhesion. The author reports a successful case of gastrotomy for establishing a gastric fistula. The patient, a male, aged 46, first experienced difficulty in deglutition in May of last year. This symptom gradually increased, and in November the man was unable to swallow solid food. During the interval he had suffered from occasional attacks of pain in the back and right shoulder, and in October deglutition of small masses of solid food was followed by cough, nausea, and vomiting. From the commencement of the present year he became weak, and rapidly lost flesh. Dr. Elias saw the patient for the first time in February, and, after exploration of the œsophagus, diagnosed an annular carcinomatous structure in the lower third of the canal. In spite of the daily introduction of the œsophageal tube the structure progressively contracted, and at the end of May it was found impossible to pass any instrument through which fluid food could be introduced into the stomach. Gastrotomy was then performed with attention to all antiseptic precautions, save the use of the spray. Much difficulty was experienced in finding the stomach which was very small and not distinguishable from intestine, until after free exposure both of the viscus and of the mesentery with the gastro-epiploic vessels. During the application of numerous sutures of stout carbolized silk, the stomach was retained near the surface by two long needles passed at right angles to each other through the anterior walls of the viscus. During the first four days after the operation the patient suffered very much from pain in the epigastric region, and from almost intolerable sensations of hunger and thirst; but, after incision of the gastric wall and final establishing of a fistula, on the fifth day, he progressed favourably, and ultimately, with regard to the operation, made a good recovery. When last seen by Dr. Elias, the patient was able to walk about, his pulse and temperature were normal, he reported the conditions of his life to be tolerable, he had been relieved of the dread of dying from starvation, and there was a good prospect of his living for some time.—*Lond. Med. Record*, Oct. 15, 1880.

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On the Incision of the Kidney—Nephrotomy; and on the Extra-peritoneal Removal of the Kidney—Nephrectomy.

W. HEINEKE contributes, to Von Pitha and Billroth's "Handbook of Surgery," the following interesting article on Nephrotomy and Nephrectomy—two operations which have been performed of late, and have attracted considerable attention.

After referring at some considerable length to the literature of the subject, and quoting the now well-known opinions of Hippocrates, Riolan, Rayer, and others on the advisability and practicability of incising the kidney, Dr. Heineke goes on to say that towards the end of the seventeenth century the thought arose with surgeons to shorten the sufferings of patients afflicted with stone in the kidney by extirpating the kidney entirely. This idea was suggested by the results of experiments made on dogs by Zambeccarius, who, having succeeded in removing the spleen of a dog, next proceeded to cut out the kidney. Stephen Blancard repeated the experiment on the dog with success, and several surgeons who saw the operation were of opinion that the kidney in man could be removed entire after ligaturing the vessels. Rayer, thinking only of the removal for renal calculi, condemned the operation because he thought the diseased kidney would be so closely adherent to the peritoneum that it could not possibly be removed without fatal injury to that structure. But the question of nephrectomy reached a new stage when G. Simon, in 1869, successfully performed the operation for the cure of a fistula of the ureter, after convincing himself of the feasibility of the operation by repeating the earlier experiments of others on dogs.

Dr. Heineke first confines his remarks to the indications for the operations, and, secondly, goes on to describe how the operations are to be performed.

Indications.—The incision of the kidney, *i. e.*, nephrotomy, aims at opening the pelvis of the kidney so as to empty it of its pathological contents. Such an evacuation is desirable and necessary if the pelvis of the kidney contains calculi, or if it is expanded by pus or urino-purulent fluid. In the normal condition of the kidney, the pelvis is covered by the substance of the kidney in such a way that it is not possible to cut into the pelvis of the organ through a lumbar incision without incising the excreting structure. An incision through the substance of the kidney, owing to the great vascularity of the organ, leads, however, to considerable bleeding, which, as in the case of accidental injury of the kidney, may easily become fatal. Nor is it easy to check hemorrhage from the kidney through the depth of the wound. The incision into the pelvis of the kidney must therefore never be made through the substance—at least, not as long as this part of the organ is in a normal condition.

In cases, however, in which the pelvis of the kidney is required to be opened, it is frequently possible to reach it without penetrating the substance of the kidneys, owing to the cyst-like distension of the whole body of the organ. The kidney being thus changed, the operator, after making the lumbar incision, has before him a renal cyst, which is recognizable by distinct fluctuation, and as the dilated pelvis spreads over the edges of the hilus of the kidney, he can readily reach the thin cyst-wall. Not unfrequently, too, in those cases in which the renal substance forms part of the limits of the cystic dilatation, this substance is so atrophied, and the bloodvessels so few and small, that only a thin layer, and that not very vascular, has to be cut through in order to reach the contents of the pelvis of the kidney. In such cases, an incision penetrating the renal substance will not induce dangerous bleeding.

The incision of the kidneys from the region of the loins is indicated for the

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purpose of removing calculi or pus or urino-serous effusions if the pelvis of the kidney can be opened without causing perilous injury to the substance of the kidney; and, as just stated, this possibility exists when the pelvis of the kidney is considerably dilated.

If calculi are present in the pelvis of the kidney they frequently excite pyelitis, and this leads to distension of the pelvis of the kidney with pus. From other causes also, such as catarrhal inflammation of the bladder and consequent blockage of the urine, as well as exanthematous affections, pyelitis may arise and gradually lead to considerable dilatation of the basin of the kidney. In cases of this sort pains exist in the region of the kidney, which now and then become vehement; sometimes vomiting occurs; the urine contains a purulent sediment, and has a mostly acid reaction; there is fever and occasionally rigours, and often a very high temperature in the evening. If the pelvis of the kidney contains calculi, attacks of renal colic and blood and gravel in the urine are additional symptoms. In cases of suppurative nephritis without the presence of gravel in the urine, attacks similar to renal colic due to stone sometimes occur as the result of obstruction of the ureter from polypi.

After these symptoms have existed for a long time the suppuration reached to the substance of the kidney, abscesses form in the cortical parts of the kidney until the whole organ is turned into an abscess-cavity. By the escape of the pus from this renal abscess into the tissues surrounding the kidney, deep-seated abscesses in the loins arise, which break through in the direction of the back, burrow into the pelvis, or empty themselves into a neighbouring cavity. The longer the process exists, the less prospect is there of a spontaneous cure; and the patients decline gradually on account of the suppuration and hectic, and die at last of debility or of septicæmia or pyæmia. In such cases the incision of the kidney may be of avail; it ought to be proceeded with if the suppuration and consequent debility increase, or if the patient is troubled by frequent renal colic, as soon as a painful fluctuating swelling can be detected by palpation in the region of the kidney through the abdominal wall, or by the rectum. If stones are found in the pelvis of the kidney after it is opened they are to be extracted.

If the symptoms of pyonephrosis are present, it is advisable to cut into the swelling, even if fluctuation be not yet distinct. If a cystic expansion of the pelvis of the kidney can be felt and reached from the lumbar wound, it must be opened. If there be an abscess in the substance of the kidney, then this too should be incised. If through the lumbar incision a perinephritic abscess be disclosed, it will be judicious to search with the finger or a probe for a sinus which may be leading into the pelvis of the kidney or through the secreting substance, and if such be found it will have to be dilated.

In cases of hydronephrosis, if the sac of the kidney has become very large, so as to be close to the front wall of the belly, it is better to open the tumour through the lateral part of the front of the abdomen than through the loin; but should the symptoms necessitate an opening being made at an early stage of the hydronephrosis, the incision through the loin must be had recourse to. The same rule also applies to cases of pyonephrosis.

The extirpation of the kidney—nephrectomy—can only be undertaken if the other kidney still performs its functions properly. It is indicated in cases of hemorrhage from the kidney threatening to be fatal; in suppuration of the kidney likely to become lethal through exhaustion, putrefaction, or pyæmia; in calculous disease of the kidney, if not curable by incision of the kidney; in cases of new growths of the kidney; and in cases of fistula of the ureter not curable in any other way. The hemorrhages which occur after injuries to the kidneys are not infrequently so considerable that the patient may succumb to the bleeding

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alone. After injuries which have been caused by some contusing power, and where there is no external wound, the hemorrhage is more easily stopped, because the clots which accumulate in the kidney close the vessels by the pressure which they exert. Even bleeding from the chief branches of the renal artery is not apt under these circumstances to continue long; hence it very seldom happens that subcutaneous injuries of the kidney cause death through hemorrhage; and such injuries have been observed, even after lasting and repeated hemorrhage, to terminate favourably.

It is different with the injuries of the kidneys caused by stabs, blows, cuts, and gunshot wounds. In these cases the blood can escape outwardly, and there is not the same tendency to check it by the accumulation of clots; and therefore the danger of hemorrhage from the kidney is considerably greater, the blood escaping through the outer wound as well as through the ureter. Should bleeding in such cases continue, and all other means fail, nothing remains but to ligature the vessels at the hilus of the kidney; and as this proceeding would cause the death of the kidney, the extirpation of the kidney must be added to the ligation of its vessels; or rather, it is necessary to begin by detaching or separating the kidney, and one must ligature its vessel as the last step of the removal, for the ligation of the vessels is scarcely practicable before detaching and drawing outwards the kidney. When in a case of severe bleeding there is danger in the delay, Simon has advised not to wait to detach the kidney from its surroundings, but to proceed at once to the hilus, and ligature the vessels; and not till then to complete the extirpation of the kidney. It is doubtful, however, whether more time is not lost in this procedure than in ligating the vessels after detaching the kidney from its surroundings; on the cadaver at least the latter proceeding can be more quickly performed than the former.

Extensive and protracted suppuration of the kidney which threatens to cause death, either through the fever of suppuration or through pyæmia, demands the extirpation of the affected organ. In many cases, it is true, the incision of the kidney will suffice, especially when the suppuration has settled essentially in the pelvis of the kidney, and has caused considerable expansion of the same, as well as in cases of large abscesses of the substance of the kidney which lie close beneath the renal capsule, and which are accessible through an incision in the loin or through an existing wound. Extensive suppuration in the kidney and its surrounding tissues renders the complete removal of the diseased organ necessary. This form of suppuration occurs especially after injuries to the kidney, whether compound or subcutaneous. On the other hand, idiopathic pyonephritis in most cases, if there be need of any operation at all, may be cured by the incision of the kidney; but the operation of extirpation is generally impracticable, because both kidneys are affected by the disease.

Extirpation of the kidney was undertaken by Von Bruns in 1871, for dangerous suppuration following a gunshot wound of the kidney. The kidney could not be entirely separated, as it had formed considerable adhesions; the pedicle was therefore tightly surrounded with a ligature, and the convex half of the kidney taken away. The patient died at the end of ten hours.

Renal calculus has already been mentioned as an indication for the incision of the kidney. The incision is, however, only practicable when there exists an expansion of the pelvis of the kidney in the shape of a bag. If the pelvis is only slightly expanded the incision of the kidney cannot be undertaken on account of the reasons discussed above. In such cases radical relief can solely be expected from extirpation of the calculous kidney. This operation is nevertheless of such danger as not to be underrated; and it is doubtful whether nephrolithiasis is such an important affliction as to justify one in undertaking a very dangerous

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operation on account of it. In cases in which the calculus frequently causes renal colic, and in which there is also suppuration of the kidney, from time to time associated with fever, it cannot be doubted that an operation, even attended with danger, for the removal of the disease, is permissible; as the suffering not only tires out the life of the patients, but also diminishes their faculties and threatens their existence by chronic suppuration, extension of the disease to the other kidney, or by the obstruction to the excretion of urine. It has been feared (Rayer) that the kidney affected with stone would become so adherent to surrounding tissues, and especially to the peritoneum, that it could not be removed without perilous injuries to other parts, but the experience of Simon is opposed to this view. Another argument against extirpation arises from the difficulty of making an accurate diagnosis of the disease. Gunn (1870) was on the point of removing stones from a kidney, which he considered in that way diseased, by means of an incision. When, however, after exposing the kidney, he could feel no stones through its substance, he desisted from the operation. A similar thing happened to Durham. The latter surgeon undertook two years later, in the case of the same patient, whose disorder had returned, the extirpation of the kidney in question. The kidney, however, was proved to be normal. Peters extirpated a kidney which he considered diseased by stone, but which was proved to be tuberculous. These cases show how easy it is to be mistaken as to diagnosis in regard to nephrolithiasis. But it follows from Simon's experience that it is also a mistake to think that stones contained in the kidney can be felt after exposure of the kidney. Simon is even of opinion, judging from the condition of the exposed kidney, as described by Gunn, that in that case the kidney may have contained small stones. The diagnosis of nephrolithiasis can be sometimes fixed by palpation of the kidney through the wall of the belly or from the rectum. In this way one may succeed in feeling a morbid expansion of the pelvis of the kidney, or even a hard resistance in the pelvis of the kidney. If after pains about the kidney, and renal colic, and discharge of matter and blood, gravel is passed with the urine, there will no longer remain any doubt of nephrolithiasis, yet it will often be difficult to decide whether only one or both kidneys are diseased. If often-repeated colic has always occurred on the same side, it is very probable that the kidney of that side only is affected. The probability increases when nothing abnormal is detected by palpation of the other kidney. It becomes a certainty only when the urine once containing pus becomes normal during an attack of colic caused by impaction of the stone and obstruction of the ureter, and when pus reappears with the abatement of the colic.

After exposure of the kidney one can finally have recourse, for the purpose of diagnosis, to acupuncture (Simon). With a needle passed through the substance of the kidney into the pelvis of the kidney, making only a fine and entirely harmless prick, one would be able, it is presumed, should stones exist, to feel them. Only when, after a most careful examination, disease of the other kidney is excluded, should the extirpation of a kidney be undertaken. It will always be advisable, after the exposure of the kidney, to try once more whether one cannot perhaps reach the calculi by incision of the expanded pelvis of the kidney. Simon undertook, on August 8, 1871, the extirpation of a kidney affected with stone. He had previously convinced himself that only one kidney was diseased by observing that the urine during attacks of renal colic was normal. By palpation of the exposed kidney he could not feel any stone. The operation of removal was conducted without much trouble. Eighteen or twenty little stones were found in the extirpated kidney. After a favourable run to the twenty-first day, pyæmia set in, under which the patient (a female) succumbed on the thirty-first day.

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Carcinoma and sarcoma, appearing mostly at an early age, are the new formations of the kidney which make an extirpation very desirable. As most of these tumours, however, can be recognized with certainty only after they have attained a considerable size, and as they then project much into the cavity of the belly, they cannot generally be extirpated through a limited incision, but only after opening the peritoneal cavity. One case, however, is known in which the removal was effected by an extra-peritoneal operation. Jessop extirpated (1877) from a child, two years of age, a large encephaloid tumour of the left kidney, projecting in the lumbar region, by means of a lumbar incision. On the fourth day after the operation the child was still going on well. Through a mistaken diagnosis of a hard, round tumour, situated among the muscles of the loins, Langenbuch was induced to perform an extra-peritoneal extirpation of the kidney; for the tumour proved an indurated kidney, striking superficially, situated between the muscles of the loin. The child recovered.

Lastly, fistulæ of the ureter, which cannot be cured in any other manner, also give an indication for extirpation of the kidney. A fistula from which urine flows continually is such a burdensome and tormenting complaint, that the female patients (for only females are troubled with fistulæ of the ureter) would rather undergo a dangerous operation than bear the discomfort any longer. After removal of the kidney the discharge from the fistula ceases as a matter of course. In such cases it is to be expected that the kidney is normal. This circumstance increases the danger of the operation, in so far as that an organ which has worked and performed its functions well up to the end is suddenly removed. Yet, on the other hand, the removal of a healthy kidney can be more easily performed, and performed too without injury to neighbouring tissues, than the extirpation of a diseased kidney. Simon, in 1869, extirpated a kidney on account of an otherwise incurable fistula of the ureter. The lady patient recovered. A patient, operated upon on January 8, 1879, for a similar reason, had completely recovered by February 12.

How the Operation is to be Performed.—The incision for exposing the kidney should be made at the outer edge of the sacrospinalis muscle—that is, about seven centimetres outwards from the line cutting the tips of the spinous processes, and parallel with it—extending from the lower edge of the eleventh rib as far as the middle of the space between the twelfth rib and the crest of the ilium. Then the incision is to be deepened between the lower edge of the twelfth rib and the lower angle of the wound by cutting at first through the latissimus dorsi, and thereby exposing the posterior layer of the lumbar fascia. On dividing this layer of fascia the lateral edge of the sacrospinalis muscle will appear, and is drawn inwards by means of a blunt hook, facilitating this displacement of the muscle, if need be, by the use of the knife. After drawing inwards the muscles, the layer of fascia forming the anterior part of the sheath of the erector spinæ is exposed, and has to be divided in the whole extent of the wound. Thereupon the quadratus lumborum lies before the surgeon. Between this fascia and the quadratus muscle the last intercostal and first lumbar arteries run, and have to be divided and ligatured. If also the quadratus lumborum is cut through as well as the fascia covering its front surface, one comes upon the fatty capsule of the kidney. Between the quadratus lumborum and its fascia, the last dorsal and first lumbar nerves come into view and cannot be spared. Klineberger advises that the incision for exposing the kidney should be curved, with its convexity upwards and inwards, beginning a little below and behind the free end of the twelfth rib, and ending at the outer edge of the sacrospinalis in the middle of the space between the twelfth rib and the crest of the ilium. By this arrangement he thinks it possible to spare the last dorsal and frequently also the first lumbar nerves.

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If it is intended only to incise the kidney after exposing it—that is, should the kidney be enlarged owing to expansion of its pelvis—it is easy to feel through the incision, and the kidney cannot possibly be missed. After the fatty envelope is cut through, the kidney lies exposed, and should be incised at a point where the wall of the pelvis is very thin. Only a small incision should be made at first, and afterwards it should be dilated, if possible, with blunt instruments. If an abscess of the kidney has to be opened, one must proceed in a similar manner. If calculi are found in the opened pelvis of the kidney, they should be extracted by the fingers or forceps. If the calculi are too large or too knotty to be extracted thus, they must be crushed in the opened kidney by means of a lithotrite. Callender proceeded in this way in a case which, it is true, finally ended in death. In most cases it will be advisable to keep the incised wound into the kidney open for some time by means of an India-rubber drainage-tube.

If exposure of the kidney has been undertaken for the purpose of its extirpation, a palpable swelling does not exist, as a rule, which would guide the way to the kidney. The latter can therefore be missed if one deviates from the direction which leads straight to the kidney. It is therefore of importance to remember that one is sure to come down upon the kidney at the place where the lower edge of the twelfth rib crosses the lateral edge of the musculus sacrospinalis. In all deeper dissection one must therefore proceed from the point indicated. In most cases the kidney can be distinctly felt after cutting through the quadratus lumborum. After laying open the fatty layer surrounding the kidney, attention must be given to the difficult task of loosening the kidney from its fatty envelope. This has to be done very carefully with the finger. At first an attempt should be made to isolate with one or two fingers the lower part of the kidney, which is *in situ* at the wound; having succeeded in that, the kidney should be pulled upon at its lower end by the first three fingers, and the upper part should be drawn out from under the ribs, whilst the fingers, which by degrees carefully free the kidney, are gradually pushed forwards.

The fatty envelope cleaves the firmest to the ends of the kidney, and one must therefore be particularly careful when dealing with them; perhaps even it will be well to have recourse to the knife or scissors. If the kidney has been loosened from its surroundings, and its upper part pulled out from under the arch of the ribs, it can be raised so far from out the depth of the wound that one can easily reach its hilus and there ligature the vessels of the kidney. This is best done by several ligatures placed round the pedicle of the kidney after the fatty envelope has been stripped off either with the fingers or forceps. It is better also to tie the pedicle in two portions by passing a curved aneurism-needle armed with a double thread through the middle of the pedicle, taking care to avoid the vessels, and tying each part separately. The employment of two ligatures has, besides, the advantage that, if one of them slips, the parts can be drawn up to some extent by the other.

After ligaturing the pedicle the kidney is cut away, leaving, however, enough of the pelvis of the kidney to prevent the ligature slipping. The operation is then completed. In the depth of the wound the peritoneum can now be seen to heave up and down with each movement of respiration.

If special difficulties should arise whilst loosening the upper part of the kidney, and in pulling it from under the arch of the ribs, either on account of adhesions or of the high position of the kidney, it will be advisable to make the upper part of the kidney more accessible by resecting a piece of the twelfth rib about four centimetres in length. This has, however, to be performed with great care, in order to avoid causing an injury to the pleural sac, which reaches down as far as the upper edge of the twelfth rib. In any case, all the soft parts have to be

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separated quite close to the rib. The pulling down of the kidney can be facilitated by laying hold of it with a strong pair of forceps. If one considers it practicable, after exposing the kidney, to proceed at first to ligature its vessels, one must pass the fingers on, after incising the fatty envelope, over the median edge of the kidney to the hilus, and isolate and surround with a thread the bundle of vessels which can be easily felt as a compact cord. This proceeding has its particular difficulties, owing to the inaccessibility of the pedicle. If the ligature be tightly tied, it will be best to cut off the vessels with a pair of scissors, leaving a part of the pelvis of the kidney attached to them. Afterwards the extraction of the kidney is undertaken and completed by cutting away the ureter. In those cases in which the extirpation of the kidney is indicated, and the kidney is firmly adherent to its surroundings, Simon proposes to peel out the kidney from its fibrous capsule, and to ligature the vessels within the capsule at the hilus.

The antiseptic precautions applied during the operation, as well as in the after-treatment, will have great importance as regards the result or extirpation of the kidney. Even injuries to the peritoneum during the extraction of the kidney will, it is presumed, not essentially increase the danger of the operation under this treatment. During the first four or five days after the operation, anything pressing upon or interfering with the wound which might produce bleeding must be prevented as far as possible. The bowels therefore must be thoroughly emptied before the operation; opium and a low diet prescribed in the first days afterwards. The catheter must be used if necessary.

The extra-peritoneal extirpation of the kidney had, up to the time of writing, been undertaken eight times. In two cases the patients recovered (Simon, Langenbuch); four cases ended fatally (Simon, Bruns, Peters, Durham); of one case (Jessop's) the issue remained unknown; in the case of Zweifel the condition of the patient after a lapse of four weeks was very favourable. The two operations of Simon lasted about forty minutes each, that of Bruns almost two hours. The extraction of the kidney from its fatty capsule was always the part of the operation which was not only the most difficult, but which also required the most time. In the case of Bruns, the removal was not entirely completed in spite of the resection of a piece of the twelfth rib. In the extraction of a calculous kidney, undertaken by Simon, the fibrous capsule of the kidney tore a little. Zweifel found the kidney inseparably connected with the fatty capsule, and had therefore to peel it out (unhusk it) from its fibrous capsule; the kidney itself was so soft and crumpled that Simon could only with difficulty recognize it as such. Simon did not succeed in his first case in tying the pedicle in two parts, because the veins could not be distinctly recognized on account of the traction on the pedicle, and an injury of the veins had to be feared. In spite of ligaturing the pedicle, bleeding occurred in both of Simon's cases after cutting away the kidney, and could not be checked after the pedicle had been again ligatured.

In the case just mentioned, persistent vomiting for a time continued after the operation, which, however, could not be referred to the disturbances to the secretion of urine, but only to the influence of the chloroform. The normal quantity of urine in Simon's female patient, from whom a healthy kidney was extirpated on account of fistula of the ureter, was discharged on and after the fourth day.—*Med. Times and Gazette*, Oct. 16 and 23, 1880.

A Case of Aneurism of the External Carotid, in which, after failure of the Ligature of the Common Carotid, the Old Operation was performed successfully.

Mr. Henry Morris, at a recent meeting of the Royal Medical and Chirurgical Society (*British Med. Journal*, Oct. 30, 1878), reported the following interesting case:—

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Elizabeth P., aged 45, first came under Mr. Morris's care on May 20, 1879, with an aneurism about the size of a walnut at the level of the hyoid bone, and just above the bifurcation of the right common carotid artery. It had been noticed eight months, and it was growing. It was not the result of any injury. She complained bitterly of the pain it caused all over the right side of the head and neck, and of a distressing feeling of dryness about the throat and fauces. She could swallow nothing solid without great suffering; her voice was hoarse, and she spoke in rough whispering tones. Her sight and taste were unaffected. Digital and instrumental compression could not be borne. Diet and medicinal treatment were resorted to, but, her symptoms becoming rapidly worse, on July 16, a catgut ligature was placed around the common carotid artery, on a level with the omo-hyoid muscle where it crosses the cervical sheath. Four hours and a half afterwards, faint pulsation returned in the aneurism, and continued more or less marked till August 12; when the outline of the aneurism was quite lost, though some pulsation could still be felt along the line of the artery in the situation of, and for a little distance below, the seat of the aneurism. A sinus remained leading down to the point of the ligature, hard, and surmounted with exuberant granulations, from which blood occasionally was discharged. At the end of September, fresh swelling took place at the angle of the jaw; there was no pulsation in it, but, with this exception, all the old symptoms returned. On October 30, there was evidence of suppuration; an incision was, therefore, made, and a small quantity of pus was evacuated from the surrounding tissues. Relief was again obtained, but only partially and temporarily. Though the sinus over the ligature now closed, a similar one, from which blood occasionally escaped in small quantity, remained in the centre of the late incision.

At the end of November, pulsation again was felt; and the swelling, which had much subsided after the escape of the pus, again increased. In fact, the aneurism had now evidently ruptured, was inflamed and growing largely, and threatened to set up ulceration of the tense and distended skin. It was, therefore, treated in the following manner. The facial and superior thyroid arteries were first ligatured, and then the sac was laid open, and all clots turned out. It was now seen that all the bleeding was issuing from the distal end of the sac, and could be checked by passing a tenaculum underneath it and raising it. The incision was prolonged upwards sufficiently far to enable a silk ligature to be passed around the vessel beyond the sac; and, in doing so, a small artery (probably the occipital) and vein were cut, from which bleeding, easily controllable, occurred for the moment. It was specially noticed that no blood had been passing into the sac from the internal carotid, yet that no clot was prolonged into it from the common carotid. The wound did well; the ligature separated on the seventeenth day; convalescence was retarded by an attack of quinsy, which, in the right tonsil, ran on to suppuration; but the patient had quite recovered by February 12, 1880, and still remained well.

Mr. Morris said that the return of the pulsation in the aneurism a few hours after the application of the ligature, the slow consolidation of the aneurism, the pulsation in the vessel on the proximal side of the sac, though not immediately above the ligature, the subsequent growth of the aneurism in spite of the complete obliteration of the common carotid, the violence of the hemorrhage from the distal orifice of the sac at the time of the last operation, together with the absence of any bleeding from the internal carotid, proved how important a part the free anastomoses between the branches of the external carotids of the two sides of the neck, and between the branches of the external carotid and subclavian of the affected side, played in aneurism near the bifurcation of the common carotid. It was suggested, and well-known cases and dissections were quoted to support the

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suggestion, that, after ligature of the common carotid, no blood usually continued to reach the lower end of the internal carotid in the neck; and that, therefore, the anastomosing circulation within the skull was not the cause of the return of pulsation in these aneurisms, and, therefore, not a cause of the failure of the ligature. The practical conclusion arrived at was that, if the Hunterian ligature were employed in these cases, it were best to supplement it by the simultaneous ligation of such branches of the external carotid as were easily accessible, viz., the temporal, facial, and superior thyroid.

Dr. HILTON FAGGE said that he had met with a case which seemed to confirm Mr. Morris's opinion. A man was admitted into Guy's Hospital with aneurism, and was also hemiplegic. The common carotid artery was tied, and the hemiplegia soon afterwards disappeared. He died some time afterwards; and Dr. Fagge found, on *post-mortem* examination, an aneurism of the common carotid about as large as a pigeon's egg, and containing coagula; it pressed upwards on the internal carotid. There had been evidently interference with the flow of blood upwards to the brain; and, after the operation, the cerebral circulation had been restored by the collateral circulation through the external carotid.

Mr. HARRISON CRIPPS asked why, if the diagnosis, before operation, of aneurism in the external carotid artery were correct, the common carotid had been tied as low down as the omo-hyoid muscle. There was a great mortality after ligature of the common carotid, caused principally by the interference with the circulation in the brain. He thought that a ligature might have been applied to the external carotid, between the aneurism and the common carotid. If the internal carotid were patent in Mr. Morris's case, he did not see why blood did not flow down from it. Considering that there was a violent flow of blood from the distal end of the artery after opening the sac, he thought that the preliminary ligation of the collateral branches was useless. If the object were to cut off the supply of blood through the peripheral branches, he thought that it would be more effectual to tie the carotid of the other side.

Mr. HOLMES said that the case reminded him of one in St. George's Hospital, of ligature of the external iliac for supposed aneurism of the common femoral artery. The aneurism ran exactly the same course as in Mr. Morris's case; and it was so much like a malignant tumour, that the diagnosis was difficult. Local pressure was applied successfully; and the patient died some time afterwards of some other disease. The preparation, which was preserved in the museum of St. George's Hospital, showed the establishment of the collateral circulation. Local pressure would, of course, have been impossible in Mr. Morris's case. Mr. Cripps's question as to the situation of ligature was answered by the fact that the aneurism was close to the bifurcation of the artery. He agreed with Mr. Morris that additional security was gained by tying the main collateral arteries. The diagnosis between aneurism of the external and of the internal carotid arteries was difficult. The regurgitant circulation through the internal carotid was not always so powerful as some supposed.

Mr. CHRISTOPHER HEATH said the suggestion of tying the peripheral branches was admirable, if it could be carried out; but, if only one branch were left, there might be a return current of blood. He thought that it was very difficult to tie all the branches of the external carotid artery. After ligature of the artery on the proximal side, galvanism or the injection of the perchloride of iron into the sac might be tried, before the collateral circulation had been re-established. He did not see the use of tying the carotid on the other side.

Mr. HULKE believed that the injection of perchloride of iron was not safe, unless pressure could be applied on both sides of the sac. He had some years ago made a number of experiments by injecting the perchloride into the veins of dogs, and had found that if pressure were not applied, two drops caused death.

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Mr. MORRIS said that, although it might not be possible to tie every branch of the external carotid, yet the diminution of the supply of blood by the ligation of some of them put the patient in a better position. With regard to the use of perchloride of iron, there was a coagulum in the sac in his case, but it was interfered with by the whirl of the returning blood; and the object was to prevent this interference. The recurrent pulsation soon after ligature could be explained by the flow of blood through the branches of the external carotid. Although the results of ligature of the external carotid artery were very favourable, it was impossible to perform that operation in his case.

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On Colles's Fracture.

We have noticed, in the number of the *Dublin Journal* for June, 1880, a somewhat interesting paper read before the Ulster Medical Society on February 8, 1880, on the above subject, by Dr. HENRY O'NEILL, assistant surgeon to the Belfast Royal Hospital. Dr. O'Neill is a warm partisan of Dr. Gordon's method of treatment in this injury, and he also shares the views which are prevalent among Irish surgeons as to the absence of impaction in Colles's fracture. It is in relation to the latter point that a strange discrepancy occurs between our Irish *confrères* and the surgeons of Great Britain and the continent; for, while English, Scotch, French, and other surgeons generally believe that fracture of the lower end of the radius is very commonly impacted, the surgeons of Ireland seem to make it almost a personal matter to prove that this is not the case. Dr. R. W. Smith, in his valuable work published in 1850, strongly combats the notion of impaction, and in this he is supported by Dr. Gordon; and Dr. O'Neill adopts the same view, chiefly, however, from *à priori* considerations of the mode of production of the fracture, and from the condition of parts in fractures produced on the dead subject. The fracture, says Dr. O'Neill, "is usually caused by falling on the palm of the hand, with the wrist violently extended; the anterior common ligaments and flexor tendons, being forcibly stretched, act on the anterior border of the carpal surface of the radius at right angles to its long axis, forcing it backwards, so that the radius breaks almost transversely, or with a variable degree of obliquity from before backwards and upwards."

With reference to this, we would say that this, like most of the mechanical explanations of the mode of production of fractures, is, to our minds at least, extremely dubious—and that the fracture seems more probably to be in most cases produced by the transference of direct force from the palm of the hand to the lower end of the radius, a mode of production very likely to cause impaction; while, if the end of the bone is, as Dr. O'Neill imagines, torn away from the shaft by the tension of the ligaments and tendons, impaction would doubtless be less probable, though even then by no means impossible.

With regard to the non-occurrence of impaction in fractures produced on the dead subject, we cannot attribute very much importance to this; since the conditions are so different. But what has always surprised us is that the Irish writers on this subject should persist in ignoring Mr. Callender's evidence, which is positive as to the existence of impaction in three recent specimens dissected at St. Bartholomew's Hospital, as well as other recent specimens preserved in the Museums of the London and Middlesex Hospitals; and this is the more remarkable since Professor Smith, writing in 1850, asks for the very evidence which Mr. Callender produced in 1865 (*St. Bartholomew's Hospital Reports*, vol. i. p. 283.)

Here are Smith's words, quoted by Dr. O'Neill in this very paper. "Until the result of the examination of recent specimens can be adduced in support of the theory of impaction, I shall be inclined to believe that the impaction is only

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apparent, and that the compact tissue of the shaft is not found enveloped in bone, from its having penetrated the lower fragment at the time of the occurrence of the injury, but because it becomes subsequently encased in osseous matter during the process by which the bony union of the fracture is accomplished."

In reply to this challenge, Mr. Callender produces the notes (and in two cases refers to the preparations) of these instances in which this fracture was dissected in the bodies of persons who had died of other injuries a few hours after the accident, and found to be impacted. Yet the evidence seems not to be satisfactory; at least it is quietly ignored.

Dr. O'Neill does, indeed, admit that when the lower end of the radius is broken by a fall on the back of the wrist, impaction does occur. But any reader of Mr. Callender's paper can see that that careful and accurate writer had distinguished between this less common form of Colles's fracture and the ordinary cases, to which latter class all three above-mentioned belonged. Mr. Callender shows that the direction of the impaction is found to vary with the direction of the force, as it naturally would; we cannot therefore avoid subscribing to the belief of those who admit the frequent occurrence of impaction in this injury. The question is one of considerable importance in the treatment. For, to those who believe in impaction, the point of chief moment is that such impaction should be if possible disengaged, and the parts put in a perfectly natural position, at the time of the injury. This is usually not difficult. "The deepest impaction," says Mr. Callender (meaning the deepest he has met with among the specimens in various museums), "does not exceed five-tenths of an inch, usually it is much less," so that firm traction under anæsthesia would properly disengage the fragments in any case where they could not otherwise be brought into apposition; and we believe that, when the parts are thoroughly reduced at first, the injury may be very successfully treated by straight back and front splints. We say this with no hostility to Gordon's splint; in fact, we believe with him that the great essential of successful treatment is to restore the proper concavity of the front surface of the lower portion of the radius; and, so far as Gordon's splint insures this end, it is of value. But accurate reduction necessarily involves the restoration of the natural shape of the bone—and it is difficult to see what there is to displace the lower end again when once it has been reduced and is kept quiet. We repeat that personally we have a high opinion of Dr. Gordon's splint, and have used it successfully; but we feel that a too exclusive trust in this or any other form of apparatus has some tendency to lead the surgeon astray from what ought to be his first and great object—the accurate reduction of the parts at the earliest possible moment, and by the exertion of any necessary amount of force which seems justifiable.—*Lond. Med. Record*, Oct. 15, 1880.

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Cross-Legged Progression (Scissor-Legged Deformities) the Result of Double Hip-Anchylosis.

Mr. CLEMENT LUCAS, at a recent meeting of the Clinical Society of London (*Med. Times and Gazette*, Oct. 30, 1880), read a paper on cross-legged progression (scissor-legged deformities) the result of double hip-anchylosis. The object of the paper was to direct attention to a peculiar and characteristic gait brought about by anchylosis of both hip-joints, and hitherto undescribed. Two patients were exhibited to illustrate the cross-legged mode of walking, one a boy aged ten, and the other a man aged forty-seven. In each case the disease had existed for some time in one hip-joint before the other had become affected. Gradually, as the patient walked with the aid of sticks or crutches, the limb last attacked was carried across the other, and becoming anchylosed in this position, compelled the patient to walk permanently cross-legged. The legs placed in this

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position suggest in their crossing the appearance of a pair of scissors. The author left it open to discussion how this position was acquired—whether as the simple result of the adduction which is so common a sequence of hip disease, or as the gradually developed, perhaps unconscious, action on the part of the patient to place his limbs in the position most favourable for progression. Mr. Lucas gave the following explanation as the most practicable. The patient, when commencing to walk on the convalescent limb, finds that by resting the other limb upon it he can steady the inflamed hip, and prevent the movements which cause him pain. At the same time, by the oblique position the limb is shortened and rendered less liable to touch the ground. As recovery goes on in the hip last attacked, the patient from time to time tests its condition by dropping the supported foot to the ground and leaning a little weight upon it. Gradually he takes more and more weight from the crutches, still retaining the limb in the oblique position, and finally, the second hip having become anchylosed, he is able to throw aside his crutches and walk in the peculiar manner illustrated by these two patients.

The author showed that in ordinary walking the forward movement takes place entirely from the hip, the knee-movement being of service only to shorten the limb and prevent the feet touching the ground when in the act of being advanced. Hence, should both hips become fixed when the limbs are parallel, progression could only take place by twisting first one side of the body, then the other, to the front. The patient finds out for himself that by carrying one limb across the other, so as to render the knees oblique, the knee-movement can be made to take the place of hip-movement, and knee-walking is thus substituted for hip-walking. In both the patients exhibited, the right leg (that last attacked) was in advance of the other.

The first patient, a boy aged ten, began to suffer from disease of the left hip when four and a half years of age, and attended as an out-patient at the Evelina Hospital under Mr. Lucas's care. Fifteen months later, after a fall, the right hip became diseased. He continued under Mr. Lucas's care till June, 1877, when he was admitted into the hospital under the care of Mr. Morrant Baker. After resting in the hospital three months he was discharged, and again attended as an out-patient. For twelve months after his discharge he was kept lying during the greater part of the time; he was then allowed to walk with crutches, the left hip being, however, anchylosed. He was then sent into the country, and on his return it was found that he had learnt to walk with both legs, and that they were fixed in the scissor-like position.

The second patient exhibited, Mr. Lucas saw walking in the street, and diagnosed his condition by the light of the other case. A man, aged forty-seven, first began to suffer pain in the left hip in the year 1870. He was at this time employed as a coal-heaver. He sought advice at St. Thomas's Hospital, and afterwards at St. Bartholomew's. Subsequently he spent thirteen months in the Dalston Infirmary. After this, for a year, he tried to work a little, but remained lame. Since that time he has gained his living by hawking trifles in the streets. In September, 1879, he began to suffer pain in his right hip. Up to this time it had been his custom to rest most of his weight on his limb, but the pain now caused him to stand chiefly on the left leg. In the course of the winter he got into the habit of crossing his legs, but at first was able to unlock them at will. Later he used to unlock them at night-time, when he retired to sleep; but gradually this became more difficult, and they are now firmly fixed in the cross-legged position.

Mr. J. Croft said that among the cases of excision of the hip which came under his care last year he had had one which was double. This ended in recovery; but the mode of walking was different from that here presented; the con-

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ditions also were different. The patient walked with one knee in front of the other, and there was some lordosis. Much improvement was effected by cutting through the femur on one side and breaking through the adhesions on the other. All cases of double hip-joint disease, however, did not end like these. In the child exhibited there had probably been a double dislocation; and so likewise in the man. He thought the best plan of affording relief would be to cut through both femurs below the great trochanter.

Mr. HOWARD MARSH said that such cases may and ought to be cured without displacement. The cause of the peculiar gait in the man was that his limbs had been allowed to go wrong. And the tendency to displacement should have been obviated by splints and weights. The man did not walk in that peculiar fashion because he had had hip disease, but on account of the position the limbs had been allowed to take. He would cut the femurs.

Mr. LUCAS, in reply, said that the scissor-like position was assumed so that the knee-joint might be used after the manner of the hip-joint. In reply to Mr. Heath, he said he did not think there was dislocation in the man.

Medical Jurisprudence and Toxicology.

An Epidemic of Ergotism.

This epidemic, described by SWIATLOWSKY (*St. Petersburg. Medic. Wochenschr.*, 19th July, 1880) occurred during the autumn of 1879 in the neighbourhood of Novgorod. In the district attacked, an inhospitable climate and a marshy soil were combined with poverty, dirt, and generally unhealthy conditions among the villagers. Of nineteen cases in which the symptoms were strongly marked, four died. In other sixteen cases the symptoms were less developed, and probably as many more escaped observation. In these slighter cases the symptoms were diarrhœa (in seventy per cent.), weakness, more especially in the hands and feet, occasional attacks of giddiness, headache, sleeplessness, and deadness of the fingers, with formication under the skin. All had, up to their seizure, eaten fresh-ground unkilned rye, and the symptoms quickly disappeared under the use of laxatives and opiates, and the withdrawal of bread containing ergot. In the first-mentioned nineteen cases the symptoms were severer: racking pains in the extremities, severe headache, great thirst and utter prostration, with weakness of intellect and melancholia. Tonic and clonic spasms preceded by dyspnœa, deadness in the extremities, and cold sweats, attacked the flexor muscles of the limbs, the extensors being unaffected. In no case did gangrene occur. The respirations were 14.16; maximum temperature 99.8 deg., minimum (in three cases) 95.9 deg.; pulse slow and weak. The fatal cases, an old man and two children in one family and a woman in another, died, three of them in a comatose condition and one during a convulsive fit. The treatment was as above, with subcutaneous injections of morphia, and inhalations of chloroform, followed by tonics and improvement of hygienic conditions. The quantity of ergot present in the rye was about seven per cent., and two dogs fed with it each showed on the seventh week a gangrenous ulcer on one paw. On withdrawal of the ergot-bread from one dog, recovery followed in two months; while in the other, fed as before, the gangrene advanced, convulsions appeared, and death followed by way of coma in the tenth week. The *post-mortem* appearances were: brain and meninges anæmic, arteries quite empty, veins full of dark fluid blood, heart empty, lungs, liver and spleen hyperæmic, intestinal mucous membrane congested, but neither it nor the liver showing any gangrenous spots such as have been described.—*London Med. Record*, Oct. 15, 1880.

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MEDICAL NEWS.

Privileged Communications.

A movement is on foot, and has received the sanction of a very large majority of the medical profession in Pennsylvania, to procure from the State Legislature the passage of a law extending privilege to communications between physicians and their patients. Such a law, wisely framed, is for the advantage of the whole public as well as of the special class concerned in it, and that it is eminently desirable that it should be placed upon the statute-book, may be readily perceived by any one who will look into the matter.

From the peculiar circumstances under which physicians are apt to be admitted to the private lives of their patients, many things must accidentally fall under the notice of the former, and others are often imparted to them, not in their professional capacity, which they justly regard as a point of honour to keep under the seal of confidence. This principle was distinctly recognized in the time of Hippocrates, and in the Code of Ethics of our own day it is clearly set forth. While, however, matters of this kind are not to be even spoken of under ordinary circumstances, they do not come within the compass of the law now sought.

The idea of this movement is to protect the physician or surgeon and his patient in such communications as their mutual relations may demand; that whatever it is needful for the former to know in order to the intelligent treatment of a case, the latter may reveal without fear of its subsequent exposure. It is of the utmost importance that the patient should be free to place such confidence in his medical adviser, and to put him in possession of all the information needed for the due discharge of his functions; and that the physician on his part should be equally free in inquiring into all points bearing upon the proper understanding and management of the case. For want of such facts, the treatment instituted may be either inefficient or wholly erroneous.

Custom, if not law, has everywhere recognized the secrecy of the confessional, and lawyers can plead privilege against any attempt to elicit from them the statements made to them by their clients. Obviously, the same reasoning which has led to this exemption of the clerical and legal professions, applies with equal force in the case of the medical. There is an old maxim to the effect that a man should have no secrets from his priest, his lawyer, or his doctor.

It should be understood that if the physician goes outside of his province, he at once goes outside also of the protection which the proposed law

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would give him. He becomes then, in regard to all other matters, an ordinary witness, and as such may be called upon to give up the facts in his possession to the proper authorities.

That the proposed law for Pennsylvania will work greatly to the advantage of the profession and relieve us from many serious annoyances and embarrassments we can readily understand. That it will not injure the public we also believe, upon one condition, viz., that one word be stricken out.

The draft of the law reads as follows: "No person duly authorized to practise physic or surgery shall be allowed or compelled to disclose any information which he may have acquired in attending any patient in his professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon," and the word we object to is "allowed." To say that a medical man who becomes cognizant of murder, abortion, or other crime, shall not be "compelled" to disclose such a confidential communication is very well. But if the circumstances surrounding the case seem to him as a good citizen to compel him, as a matter of conscience and duty, to bring such wrong to the attention of the proper prosecuting officer, who forsooth has the right to say he shall not be "allowed" to do so? Least of all has the public who suffer from such crimes. Especially is this true of abortion, which even with existing laws is so rife. Gladly will the doctor aid in protecting any poor deceived girl who may be rescued from a life of future infamy by his refusing to be "compelled" to disclose the facts; but if he see that her life is sacrificed and that through his silence the wrongdoer and the abortionist are to escape the punishment which the good of society demands, it is not only a violation of his personal liberty of conscience and his rights as a good citizen to shut tight the only mouth, it may be, that can convict the criminals, but all of our sense of right revolts at such an enforced silence.

Many reasons make such a prohibition proper for the lawyer. But while it is contended that "legal custom has forbidden any interference between a penitent and his priest," the *law* is, that the priest, if it be insisted on, must disclose the facts or suffer the consequences. Hence, if the law protects medical men from being "compelled" to testify, it will protect us even more than it does the clergy, and with this we may well be satisfied without enforcing silence on unwilling consciences to the detriment of the community.

The satisfactory working, for a greater or less period, of similar laws in Arkansas, California, Indiana, Michigan, Iowa, Missouri, Minnesota, New York, and Wisconsin, may be appealed to as practical proof that the action now asked for at the hands of the Legislature of Pennsylvania would be in furtherance of the public interest. Especial stress is needed on this point, since the fact that the matter has been agitated by the medi-

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cal profession might at first sight give the idea that the enactment was desired by them only and for their sole benefit.

We trust that this effort to obtain salutary protection for the medical men of this commonwealth and their patients may be favourably met by the law-makers, and should be glad if the mention of it in these pages should induce similar action in other States.

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Literary Piracy.

Most of our readers are familiar probably with the "American Health Primers," published within the past eighteen months by Mr. Presley Blakiston, of Philadelphia. We should be glad to learn that they had been so esteemed as to lead to their republication in England, were it not for the fact that in doing so the English publishers, Messrs. Ward & Lock, have seen fit to commit an act of the grossest injustice. They have announced thus far six of the series, of which we have seen but four, and can therefore only speak of these. The chief wrong they have done is to omit entirely the names of both editor and authors, and announce the series as "written and edited by distinguished members of the medical profession," thus misleading the British public into the belief that the books are of European and not American origin. And to carry out still further this deception, they call them "Ward & Lock's Long Life Series," as though it were an independent and original publication. And, still further, in cases where the text would discover the American origin of the book, whether by direct statement or by allusion to cis-Atlantic customs, statistics, men, and manners, they have indeed "carefully edited" them by changes and omissions. In Dr. Harlan's and Dr. White's Primers only one sentence in each needed alteration, in Dr. Cohen's perhaps a dozen, while in Dr. Richardson's a couple of score of changes are made—not to add to the value of the books but to conceal their American origin.

We wish we could say that the republication of the "American Health Primers" redounded as much to the honour as it does to the literary discernment of the English publishers. As it is it is piracy in its worst form, and swift condemnation should follow its exposure.

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Gift of Harvey Memorials.

At the November meeting of the College of Physicians of Philadelphia, Dr. Weir Mitchell presented to the College some very interesting Harvey memorials which he collected during his recent visit to England and to the grave of Harvey, in the village church at Hempstead about seven miles from Saffron Walden in the county of Essex. In his visit to Hempstead Dr. Mitchell was accompanied by Dr. Benj. W. Richardson, of London, who has been principally instrumental in recalling to public notice the tomb of the great anatomist.

Dr. Richardson in early life (1847) was assistant to the surgeon at Saffron Walden, and while attending a neighbouring cottager's wife in her accouchement her husband entertained him with an interesting story of the chapel and vault of the

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"great Dr. Harvey." It gradually dawned upon Dr. Richardson that the Harvey referred to must be the discoverer of the circulation of blood, and on further inquiry this proved to be the fact. Up to that time the Harvey vault had not been visited by men of science within the memory of any of the surrounding inhabitants, and it had been long neglected and had fallen sadly out of repair. The villagers knew that Dr. Harvey was a celebrated man, who belonged to a distinguished county family, and had made some great discovery, but they did not know what it was. Dr. Richardson subsequently visited the vault and through his influence it was repaired and public attention called to the resting-place of the remains of the great Harvey.

In 1878, Dr. Richardson, with a photographer, made a visit to Harvey's tomb at Hempstead, and took a series of six photographs, copies of which Dr. Mitchell procured, had framed, and with fac-simile tracings of the inscription on the monument and on the sarcophagus of Harvey presented to the College. Two of these photographs represent different views of the exterior of the church, which dates back to the reign of Henry the Seventh, and one of its interior with the Harvey chapel, a handsome little annex over the Harvey family vault in the northeast corner of the church. Two others represent the front and profile view of the marble tablets or monument containing the bust of Harvey which is erected in the church. The ornamentation of the tablet is bold and effective, and below the bust is a lengthy and appropriate Latin inscription, a fac-simile copy of which Dr. Mitchell obtained by rubbing on tracing paper. A careful study of this bust which Dr. Richardson made in connection with Mr. Woolner, a sculptor and Royal Academician, led him to the belief that it was copied from a cast made after death, and that it was done with true artistic delineation, but that all that he was obliged to add to make up the bust as it stands, as for instance the ears, hair, drapery, etc., is of the worst possible quality.

The concluding photograph of the series is a view of the vault and of the sarcophagus containing the remains of Harvey which was obtained by the aid of the magnesium light. The leaden case or sarcophagus is represented as roughly shaped in the form of the body. The head has the rude outline of a face with mouth, nose, and eyes; the body is long and tapering towards the feet. The breast plate is broad and the inscription on it is in raised letters: "Docter William Harvey decesed the 3 of Ivne 1657, aged 79 years," a fac-simile copy of which Dr. Mitchell obtained by rubbing.

In accepting the gift of these interesting Harvey memorials the College voted its thanks to Dr. Mitchell.

—

Pulverization of the Bromides in Pertussis.—The good effects of bromide of potassium are well known, and, according to Dr. Wintrebert, the way to render this medicine still more useful is to bring it in direct contact with the respiratory passages by pulverization. He habitually employs the solution of 20 per cent. after each paroxysm, this having cleared away the mucosities so as to enable the remedy to gain direct access to the mucous membrane.—*Med. Times and Gaz.*, Oct. 30, 1880, from *Presse Belge*, Oct. 17.

—

The German Pharmacopœia.—The Imperial Government of Germany has appointed a commission, which has already commenced its sittings at Berlin, for the revision of the German Pharmacopœia. The commission consists of twenty-seven members, of whom sixteen are professors from various universities, five are apothecaries, and the remaining six are eminent practising physicians or surgeons. The Prussian War Office has deputed two military doctors and a military apothecary to attend the sittings. Dr. Schmidt, Professor of Pharmacy at

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the University of Halle, will act as secretary to the commission, which is presided over by Privy Councillor Dr. Struck, director of the Imperial Sanitary Department.—*Lancet*, Oct. 23, 1880.

—

Angels in the House.—In the last fasciculus of the *Bulletins de la Société d'Anthropologie de Paris* (tome iii, fasc. 2), M. Bertillon gives the results of his comparative analyses of the statistical tables of suicides for France and Sweden. These results show singular accord between the two countries, and the author considers himself justified in maintaining that they establish the two following laws. 1. Widowers commit suicide more frequently than married men. 2. The existence and presence in the house of children diminishes the inclination to suicide both in men and in women.—*British Med. Journal*, Oct. 30, 1880.

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British Medical Association.—The Council have decided that next year's meeting of the Association shall be held at the Isle of Wight, on account of its accessibility to the distinguished foreigners who may attend the International Congress in London in 1881. Mr. Benjamin Barrow, of Ryde, has been appointed President-elect.

—

The Weir Mitchell Library Fund of the College of Physicians of Philadelphia.—At the November meeting of the College of Physicians, Dr. Alfred Stillé, Chairman of the Library Committee, reported that he had received from Dr. Weir Mitchell a check for one thousand dollars, the income from which was to be applied to subscriptions to current periodicals or to such other use as the Library Committee might direct. The College passed a vote of thanks to Dr. Mitchell for his generous gift, and directed the treasurer to invest the same, and to keep a separate account of it as the "Weir Mitchell Library Fund," and to pay over the income to the Library Committee in accordance with the terms of the gift.

—

Southwest Virginia Medical Society.—A meeting of physicians of the 9th congressional district of Virginia was held at Marion on the 17th of September to organize the Southwest Virginia Medical Society. Dr. S. C. Gleaves, of Wytheville, was called to the chair. It was resolved to effect a permanent organization, and Dr. W. F. Barr, of Abingdon, was elected President, and John S. Apperson, M.D., of Smyth, Recording Secretary and Treasurer. Meetings are to be held quarterly, and the first stated meeting was held at Marion on the 28th of October, and the permanent organization was completed.

—

Break-bone Fever in Charleston.—The break-bone fever which prevailed in Charleston during the autumn has disappeared with the advent of cold weather and frost. From the *National Board of Health Bulletin*, Nov. 6, 1880, we learn that break-bone fever at the same time prevailed extensively in Northern Egypt, which corresponds in geographical latitude with the Gulf Coast of the United States, where it also existed. The isothermal difference is about ten degrees.

—

Physicians in Chicago.—According to the *Register*, just published, under the direction of Dr. D. W. Graham, there are 409 regular physicians in Chicago who are in affiliation with the Code of Ethics of the American Medical Association.

—

Smallpox in Chicago.—Smallpox is on the decline in Chicago; 177 cases have been treated in the hospital from January 1st to October 1st, of which 30 or 11 per cent. have proved fatal.

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Massachusetts Medical Society's Prize.—The Committee on Publications offer the sum of *two hundred dollars* as a prize to any one Fellow of the Society who shall give, on or before the 15th of April next, in an essay or report (worthy of a prize), the best and fullest evidence of any original or meritorious *professional work*, done by himself during the two years next preceding said date—in experimental investigations, scientific researches, or clinical observations.

—

Resignation of Prof. Klebs.—Prof. Klebs has resigned his chair of Pathological Anatomy in the Medical Faculty of the University of Prague. He has done so, we understand, because his request for additional space for pursuing his investigations has been refused by his colleagues in the College of Professors. The students, with whom he is so great a favourite, are endeavouring to induce him to recall his resignation, and the Minister of Public Instruction has called for a report on the subject from the Professors' College. Prof. Klebs is in bad health, and is at present at Carlsbad.—*Med. Times and Gaz.*, Aug. 7, 1880.

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Literary Notes.—The autumn has not been prolific of literary announcements. H. K. Lewis, of London, has nearly ready, "Elements of Practical Medicine," by Alfred H. Carter, M.D., Physician to the Queen's Hospital, Birmingham; and Williams and Norgate have just published "Lectures on Digestion," by Dr. C. A. Ewald, of the Royal University of Berlin.

Of new journals we have received the first number of the *Specialist*, a monthly quarto of 14 pages, published by Churchill, of London, and devoted, as its name implies, to the specialties. Mr. Presley Blakiston reprints it in consolidation with his *Intelligencer*, under the editorship of Dr. Charles W. Dulles—whose name is favourably known in medical literature.

The *Rocky Mountain Medical Review* is a monthly of forty pages, the first number of which was issued in September, and is edited by A Wellington Adams, M.D. It hails from Colorado Springs, and its contents, make-up, and mechanical execution, give it an extremely attractive appearance.

An important work on medical jurisprudence, in three volumes, is announced by H. Laup, of Tübingen. It is to be edited by Dr. Maschka, and written by a series of experts, including Drs. Eulenberg, Drogendorff, Oesterlen, Emminghaus, Krafft-Ebing, and other well-known names.

The *British Medical Journal* (Oct. 16), in acknowledging the receipt of the "Subject-Catalogue of the Library of the Surgeon-General's Office," says of it that "it is a perfect marvel of care, accuracy, and completeness. Although Dr. Billings, its accomplished compiler, modestly disclaims for it all pretensions to a complete medical bibliography, yet the known industry with which the agents of the library in London, Paris, Leipzig, Amsterdam, St. Petersburg, and other great book-marts collect books for it, probably makes the catalogue the most complete in the world for medical literature."

—

Obituary Record.—Died, at Springfield, Ill., on the 27th of October, Rufus S. Lord, M.D., Surgeon-General of the Illinois National Guard.

The death of Professor Buhl is announced. His studies in pathology, and especially in the pathology of tubercle, have rendered his name well known both at home and abroad.

—

To Readers and Correspondents.—The editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession. Local papers containing reports or news items should be marked.

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